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COMMERCIAL CAR JOURNAL

THE MAGAZINE FOR FLEET OPERATORS

SEPTEMBER 1942

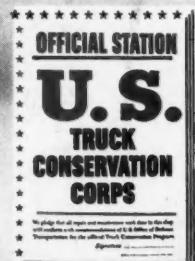
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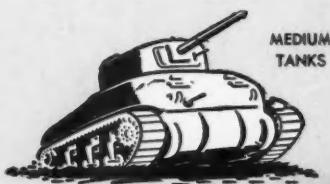
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COMMERCIAL CAR JOURNAL

with which is combined Operation & Maintenance

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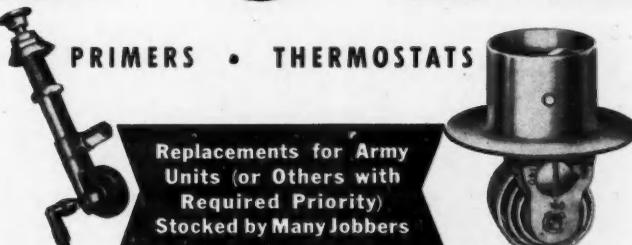
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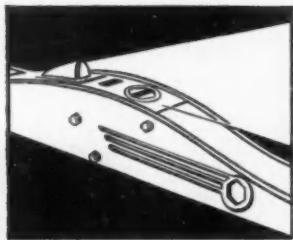
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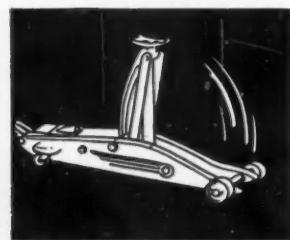
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Used Truck Rationing Nears

Acting upon the premise that essential truck services should have the preference of all commercial vehicles available for resale, the Office of Defense Transportation is engaged in a study which shortly may lead to the freezing of sales of all used commercial vehicles and the bringing of them under a system of rationing less stringent than that now governing new commercial vehicles. There is even the probability, prompted by the reports reaching Washington, that in various localities unreasonably high prices are being asked for used vehicles, that the ODT may recommend to the Office of Price Administration the imposition of a price ceiling.

The Allocation Section of ODT estimates that 250,000 used commercial vehicles are in the hands of the retail trade. Rationing would affect a greater number than this because even the vehicles which truck operators might wish to dispose of at a price would be subject to rationing.

The used commercial vehicle plan now under consideration provides for decentralized authority. Anxious to avoid a duplication of the huge amount of paper work occasioned by the rationing of new vehicles, Washington is inclined to place in the hands of local allocation officers full authority for disposing of used commercial vehicle applications. Coupled with this authority would be instructions to the local allocation officers that they reserve their strictness on eligibility to applications involving used vehicles of medium and heavy capacities. The eligibility classification list for used vehicles would be the same as that for new vehicles. However, eligibles below Classes 1 and 2 would be accorded a treatment more liberal than is now possible in the case of new vehicles. The principal purpose of the rationing of used vehicles would be to assure to essential truck operations used vehicles of



WASHINGTON RUNAROUND

Used Truck Rationing Nears . . . Novel Price Ceiling Plan . . . Truck Registry Contemplated . . . Light Trucks May Get Break . . . Idle Equipment Roundup . . . Army Devising Wear Standards . . . Blackout Light Situation . . . and a Cleanup of Previous Reports

by **GEORGE T. HOOK, Editor**

the higher capacities and thus compensate for the scarcity of heavy types in the new vehicle rationing pool.

Novel Price Ceiling Plan

While rationing of used commercial vehicles is a virtual certainty, a price ceiling on such vehicles is no more than a probability at this moment. There remains the possibility,

however, that overnight ODT might be persuaded to recommend a price ceiling if it were to receive a flood of unfavorable reports indicating a spread of so-called gouging or profiteering. ODT is realistic about the difficulties of pricing used commercial vehicles, what with the variety of bodies, mileages, usages and the "abusages." However, undeterred by

(TURN TO PAGE 167, PLEASE)



Left to right—Robert L. Miller, safety engineer; Paul B. D'Orr, California OPA chief, and Ellis W. Tempkin, prominent fleetman and vice-chairman of the SAE Transportation & Maintenance Activity Committee, all of whom were among the speakers at the SAE West Coast War-time Conference at Los Angeles.

WEST COAST FLEETMEN SIFT WAR-TIME ISSUES

Operating and maintenance problems raised by the war, with spotlight on parts salvage and rubber, draw operators to SAE gathering

by RAYMOND KAY

FACTED with the responsibility of keeping their fleets operating for the duration, fleet operators and automotive engineers assembled for the SAE West Coast Conference on Transportation and Maintenance in Los Angeles, August 20, 21 and 22. How to keep civilian, commercial, and military vehicles

rolling in our war effort was the theme. Despite the pressure of present duties, attendance was well up to past T and M meetings, and the importance to the members of the topics on the agenda was apparent in the serious manner in which the conference got under way. Cecil E. Ellis, Transportation Supervisor,

Southern California Edison Co., Los Angeles, was general chairman.

On August 20, "O. D. T." day, at the Truck Operation Session, "The Tire Situation—What Must Be Done" was discussed by Paul Barksdale D'Orr, Rationing Administrator for the State of California, O. P. A. Mr. D'Orr pointed out that the entire domestic economy and the war effort depend on motorized transportation. One of the by-products of this war is scarcity, and this is particularly true of rubber. The hope for synthetic rubber and for civilian rubber is based wholly on imagination. As to the existence of a Black Market on rubber, he said this is inconsequential. The figures on available plantation rubber can be known to anyone who will refer to the Brookings Institute reports. Actually, he said, the rubber situation has passed from a point that was disquieting to one that became alarming, and today might be described without over-emphasis as appalling. The rubber stockpile in this country has diminished so rapidly that the number of tires allowed to be sold and recapped for civilian use decreases at the rate of 10 per cent a month.

We are faced with the vital problem of rubber conservation, and the 40 m.p.h. speed limit is a "must" measure, he declared. Mr. D'Orr's office requires that an applicant for a new or retread tire sign an affidavit to the effect that since July, 1942, neither he nor any of his drivers has, to his best knowledge, exceeded this speed limit. If an applicant cannot so swear, even though otherwise



Above, also left to right—Cecil E. Ellis, of Southern California Edison, who was general chairman of conference; Fred C. Patton, Thursday morning chairman; Harley W. Drake, Friday morning chairman

eligible, his application for a new or retread tire is denied. Every effort will be made at the next session of the legislature to reduce the maximum speed limit for California from 55 to 40 m.p.h., Mr. D'Orr reported.

Mr. D'Orr called upon the inventive genius and the experience of the automotive engineers and the fleet operators of the country. They must tell us, he said, how to conserve our present supply of tires, and how to increase our present trickle of synthetic rubber to fill our needs.

Fred C. Patton, manager, Los Angeles Motor Coach Co., guided the spirited response to Mr. D'Orr's address. Since this was a subject of immediate interest, the questions came fast and furiously. It was soon clear that there was general agreement as to the wisdom of the 40 m.p.h. maximum speed limit, and the advisability of lowering the existing minimum speed limit was brought up. Ed Meybem, superintendent of transportation, City of Berkeley, urged the curtailment of driving speed within cities, and the elimination of some unnecessary stop signs, for the frequent stops cause wear on tires, and Sidney B. Shaw, Automotive Engineer, Pacific Gas and Electric Co., San Francisco, agreed with Mr. Meybem. He believes the wear on tires to be greater at 25 miles per hour in the city than at 50 m.p.h. on the highway, because of the frequent application of brakes. He would like to see both the maximum and the minimum speeds lowered.

Mr. D'Orr put the solution up to the legislature for, as he pointed out,

it alone has the power to fix the speed limits both for State highways and municipalities through its Motor Vehicle Act. The city cannot act in this respect, for it must first have an enabling act from the legislature. A minimum of 25 m.p.h. seems reasonable to him for city streets, he said, but Mr. Meybem and Mr. Shaw may be quite right in wishing to see it further reduced. Incidentally, Mr. D'Orr said, he was not an engineer, and would appreciate clarification of this point by some of the engineers present. He has been told, he said, that at a prolonged speed of 60 m.p.h. a temperature of 275 degrees F. is generated in the casings which tends to blow the rubber and to disintegrate it. Was this correct? Mr. Patton, technical chairman of the meeting, replied that this condition happens because of the differential expansion of the fabric and the rubber. Mr. Shaw explained that it takes more than twice as much power to drive at 60 m.p.h. than at 30 m.p.h., and that at this speed you obviously have more emergency stops to make. The slippage which results is even more damaging than the heat, he said.

The chairman suggested that all the fleet owners present request their drivers to sign an affidavit at the end of each month swearing that they have not driven over 40 m.p.h. during the period just passed, and Mr. D'Orr urged the effectiveness of discussing this all-important matter with the union officials who are in a position to ask for full cooperation from their members. He stressed the



Roy Long, ODT field manager, banquet speaker

efficacy of education and pressure, and recounted some experiences he had had himself in educating some drivers and in pressuring others.

Regarding the possibility of various fleet operators obtaining truck tires or recaps, Mr. D'Orr pointed out that although rationing regulations have been established, each application is considered on an individual basis because circumstances change. Dairy and bakery trucks, for example, are eligible to get recaps provided they could not function otherwise, but only if there are any left in the quota on the 25th of the month. Actually, the situation in California is such that the quota is taken up by the 15th of the month. The condition is so serious now that his office reports 25,000 eligible applications for recaps which cannot be filled. The only possible solution is conservation.

Robert L. Miller, safety fleet engineer, General Insurance Companies, Los Angeles, read an interesting pa-
(TURN TO PAGE 158, PLEASE)



Thousands of fleets not engaged in war production hauling are finding themselves faced with many problems in maintenance. United Parcel Service is outstanding in this field by virtue of pursuing as intensive and complete a salvage program as can be found in America. Everything made of metal, rubber, wood and fabric is carefully inspected, repaired or rebuilt.

Not only does this practice insure continuous operation for some time to come but UPS points out that in many cases great cash savings also are being realized. Additional savings appear to be a certainty as continuous experiments develop valuable case histories and experiences.

This article describes many detailed operations that should be of interest to all fleet operators, whether engaged in civilian or war production hauling, especially those concerning tires, pistons, crankshafts, carburetors and many others, including the various electrical units.

A NY organization doing business in wartime finds itself faced with new conditions and its survival, especially if the company is not engaged in war work, may depend on the ability of the maintenance shop to meet new and unique problems to assure continued operation of the company's trucks.

This means that a fleet must do its best with what equipment, parts and accessories it has on hand and meet each maintenance problem as it arises without waiting on chance to secure new materials and parts critical to our war effort.

United Parcel Service, which operates a large number of delivery cars and trucks throughout the country in a consolidated delivery service for 1200 firms in 16 cities, is salvaging every possible automotive part. UPS has always salvaged parts in the past but war requirements and the new parts rebuilding and replacement order of the War Production Board now make it practically mandatory for a fleet to salvage everything it can. UPS shops have been faced with many salvaging problems, the solution of which should prove of interest to other fleetmen and mechanics.

Welding affords many opportunities for salvaging expensive parts such as manifolds, cylinder heads and engine blocks. An arc welder recently welded a cracked transmission cover damaged by excessive movement when a bolt came loose. This particular crack was a minor one, but many such covers have been

UNLIMITED PARTS SALVAGE . . THAT'S U.P.S.

Cleaning, welding, brazing, machining and numerous other operations are successfully employed to reclaim vital parts and adapt them for extra service

by STANLEY GERSTIN

An interview with W. D. Bixby, Vice President and Harvey Earl, Superintendent New York Shops, United Parcel Service

arc welded when whole sections were broken off.

Recently an end section of a cast iron manifold snapped off. Instead of discarding the manifold, it was welded without pre-heating by use of an acetylene torch. Another dam-

age due for repair is an engine block that had a hole punched through the side. This damage will be welded in the same manner with an acetylene torch using a patch to cover the hole.

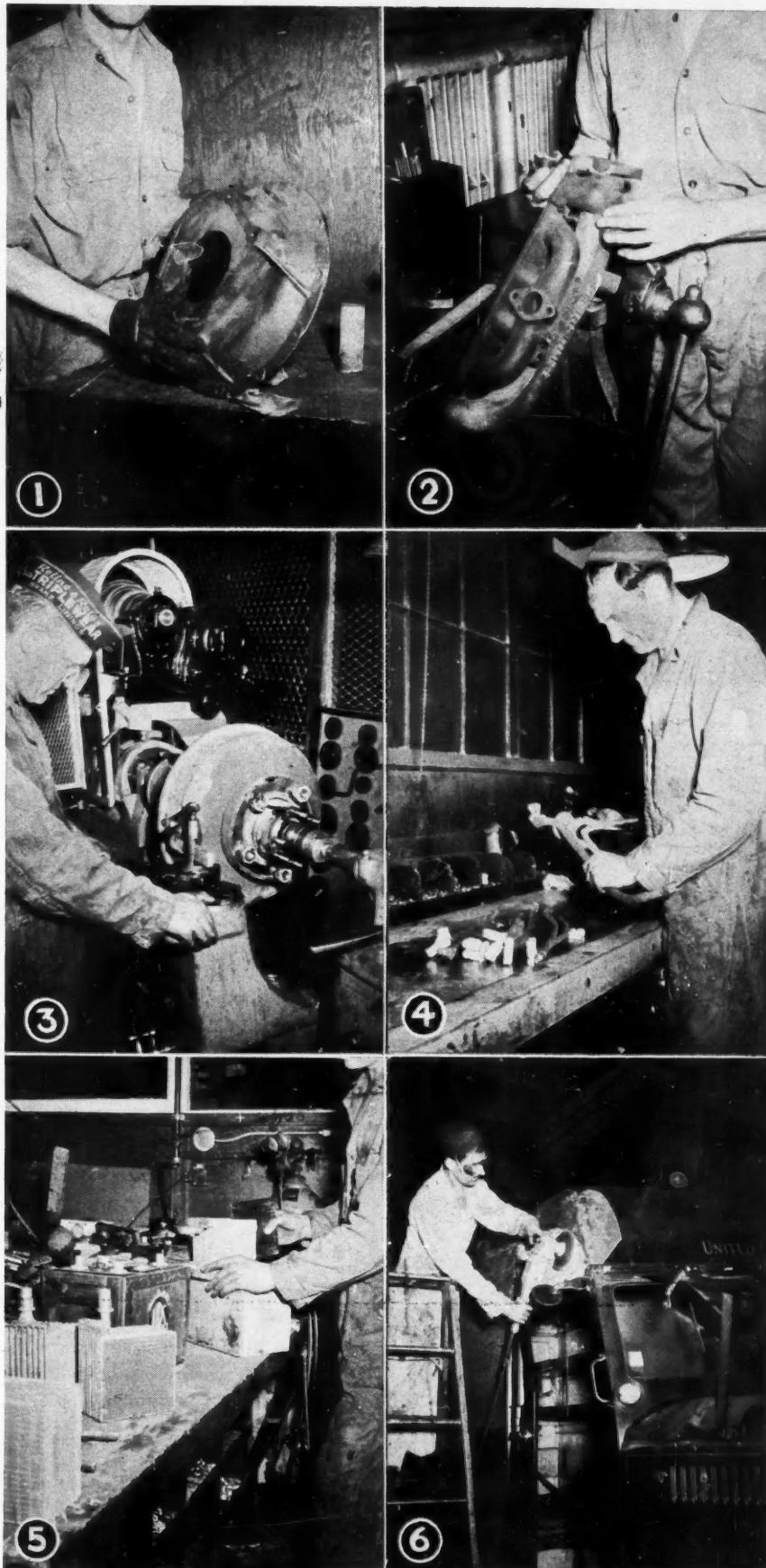
In one instance an expensive



double reduction rear end was opened up to find a gear with a broken tooth. The circumstances induced an investigation of 40 of these rear ends in some of which was found similar trouble. The trouble was caused by loosening of bolts used to attach the primary reduction bevel gear to the shaft. One or more bolts would break off to cause damaged gear or split differential case. The gear was removed, the broken teeth smoothed down, new bolts were installed and the gear was arc welded to the shaft. No trouble has developed since and Mr. Earl states that in each instance a \$450 rear end was saved from total loss. Some of these axles have run 6000 miles since the repairs were made.

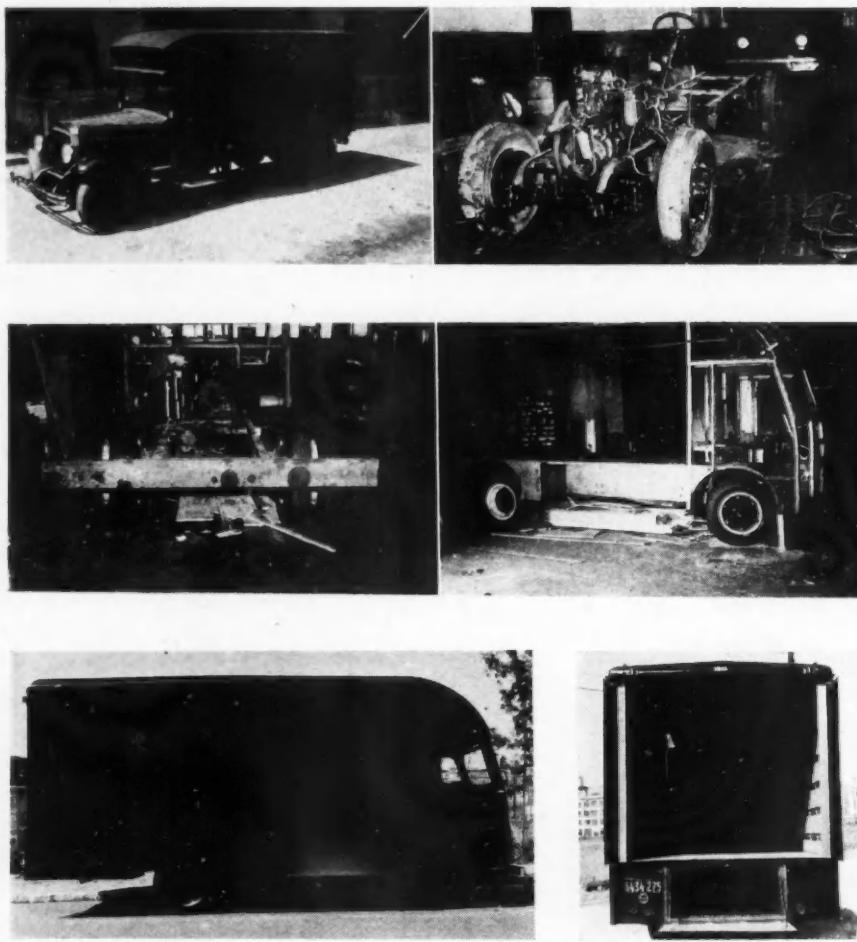
In the case of crankshafts badly or unevenly worn, the throws are ground down and fitted with undersize bearings for future use. If a shaft is too badly worn for this type of reconditioning, it is sent to an outside shop to be built up by metal spraying. Connecting rods are rebabbitted to fit undersize shaft throws. Shafts and engines are reused in any car they will fit. This practice of adapting units to various trucks has made possible their continued use for maximum life.

In spite of scheduled inspections, wheels will sometimes work loose on axle shafts and chew up the tapered surface because of excessive play. This is overcome by turning down the taper to a smooth surface and



The above illustrations show some of the salvage operations being carried on by United Parcel Service: Fig. 1, showing a welded transmission cover ready for service; Fig. 2, preparing to weld a break in a manifold; Fig. 3, turning edge of 20-in. drum for use with salvaged 7:00/18 tires; Fig. 4, salvaging battery cables; Fig. 5, rebuilding worn-out batteries; Fig. 6, minor body repair

UNLIMITED PARTS SALVAGE ... THAT'S UPS



These illustrations show the various progressive steps employed in the UPS shop in rebuilding trucks. Upper left: an old-timer selected for a modern c.o.e. transformation. Upper right: The old chassis is reinforced and control mechanism ready to be removed. Center left: Rugged steel underbody also serves as frame reinforcement. New fender bands for duals have been welded to old wheels. Center right: Body framework finished. Original body was 8 ft. This construction almost doubled length of body. Lower left: Finished body, showing special compartment on side for small and odd-shaped parcels. Lower right: Another unique body feature is 15-ft. chute at rear for rugs

taking a slight cut off the end. The wheel will fit in farther but the condition is corrected and a complete axle shaft replacement is avoided. Of course, in extreme conditions it is necessary to build up the shaft before machining. Brake drums are often turned down to accommodate oversize linings which heat up less, give better braking action and longer lining life.

The salvage of batteries is another major activity in the UPS shop. Whereas formerly this practice was primarily an economical

one because it saved us approximately 25 per cent over new battery costs, it is now a life saver because of rubber shortage and the new WPB order requiring old batteries to be turned in for new replacements.

UPS rebuilds all of its worn out batteries. The old cases are used, if still in good condition. The old plates are removed and turned over to a metal dealer who melts them down and returns an equivalent amount of reprocessed lead for use in casting battery connections and

making new plates which are assembled into the old cases. All battery work is done in a special room and every part is salvaged for reuse or for melting.

Battery cables are salvaged by cutting off the worn ends and soldering newly cast leads to the shorter parts of the cables still in good condition. It has been found that almost every good piece of cable can still be useful for some repair purpose. This salvage practice has been observed for years and is paying more dividends today than ever before.

Salvaging pistons has been a major item with UPS for a long time. It has always purchased semi-finished pistons and machined them in its own shop to reground block size, rather than boring a block to the nearest standard size of finished piston available. This practice avoids taking any more metal than necessary to clean up a block. Used oversize pistons are reground to fit smaller bores in other engines. Broken pistons are discarded. When a block is worn less than .010, correction is made by the use of special piston rings instead of reboring and fitting new or reconditioned pistons.

In the past it was considered uneconomical to salvage clutch release yokes. Now, however, worn yokes are rebuilt. Pump shafts are rebuilt by brazing and machining. Bent and burned valves are reclaimed. Carburetors, distributors and generators are rebuilt in the shop under a unit repair system in which salvaged materials are largely used with what few new parts are necessary. Exchange electrical units are always kept on hand in the stock room for replacement purposes. Shifter forks are also welded when broken, whereas in the past, they would be replaced with new ones. The mended fork does not give as long service as a new one, but under the circumstances it is a worthy salvaging effort.

Badly bent and smashed bodies are straightened and welded in cases where formerly the damaged body part might have been replaced. All sheet metal is salvaged and reused. Damaged body panels are cut down into smaller sections for further use and scrap ends are saved for the metal salvage heap.

(TURN TO PAGE 98, PLEASE)

1. Salvaging Spring Hangers

by Walter Hadenfeldt, Chicago, Ill.

I have worked out a salvage idea which saves renewing the rear spring hangers when they become worn egg-shaped due to loose spring pins. Take a new spring pin and grind the lock slot to fit the $\frac{3}{8}$ -in. clamp bolt. Then make a wedge $9/16$ in. x $1/8$ in. x $3/4$ in. out of steel. Taper the wedge slightly at the starting end. Drive it in between the pin and the hanger, at the top of the spring pin. This causes the spring pin to wedge itself on the $\frac{3}{8}$ -in. lock bolt. Then use a flat-nosed punch and peen around the wedge and hanger casting; this will make the spring pin tight enough to hold grease.

If this repair is done right, the repaired hanger will outlast the pin.

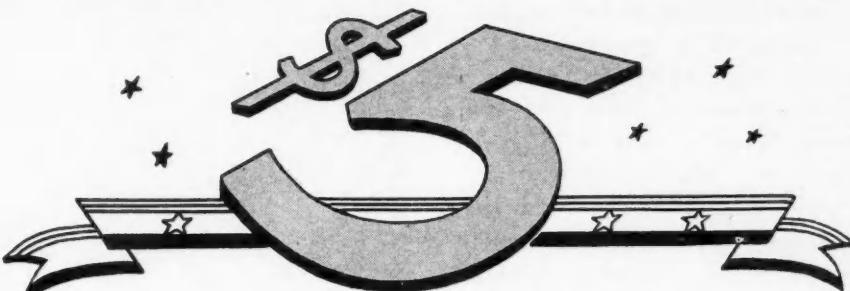
2. Salvaging Camshaft Gears

by F. W. Green, Oshkosh, Wis.

Here is a method which I have used in repairing a camshaft gear that was still in good condition so far as the teeth were concerned. The gear was loose on the camshaft due to the keyway being worn, which allowed the gear to rock, and affected the timing of the motor.

First I bored the hub out in the gear. Then I made a new steel hub, machined a keyway in it, and pressed the hub into the gear. I drilled four holes in the joint between the hub and the gear, so that half of each hole was in the gear, and half in the new hub. Then I reamed the holes to take No. 3 taper pins. The washer was then placed on top of the pins, to hold them in place, and the gear was bolted on the shaft.

SHOP HINTS & SALVAGE TIPS FROM FLEET SHOPS



Commercial Car Journal will pay \$5.00 for acceptable shop hints and \$5.00 for unusual parts salvage tips. Send in as many ideas as you have to the editor. Don't underestimate your ideas. Let the editor be the judge. A photograph or a rough sketch and simple explanation in your own words are enough. CCJ will polish them up for publication. Use this opportunity to earn extra money to buy Victory bonds and help win the war.

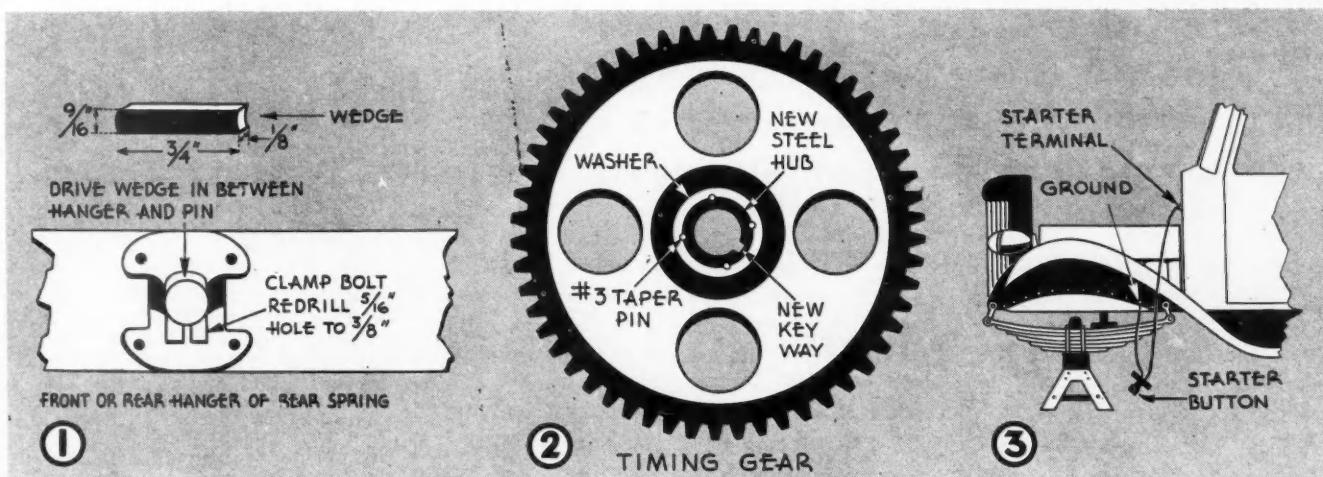
3. Engine Cranking Assistant

by Preston R. Coleman, Norristown, Pa.

When working on the valves, installing rings, bearings, or working on the rear axle of a truck, it is sometimes necessary to turn over the engine. A method I use eliminates having to crawl from under truck every time the engine must be turned over.

I use two lengths of battery cable,

three feet long, connecting one end of each cable to a starter switch. The other end of one cable is connected to a ground, and the end of the second cable is connected to the starter terminal, or direct to the starter. The switch is then left hung over the side of the motor, so that it is in reach when underneath the truck. By lengthening one cable, this method also can be used to turn the rear axle





This bakery fleet is taking nothing for granted so far as the future is concerned. Realizing that it must make its vehicles do for the duration, it is putting more thought and effort into its maintenance practices than ever before. Besides a reduction in vehicle mileage it is effecting economies in

1. Tire Mileage, by means of better inspections and repairs, plus the use of reliners on the installation of which it has definite ideas;

2. Maintenance Costs, by means of a lubrication program that has resulted in 33 1/3% reduction in engine overhauls; 15,000 miles of added service between valve regrinds, and other savings which have cut maintenance costs by \$41.66 per 100,000 miles.

This fleet thinks that some tires can be made to give 200,000 miles and is out trying for that figure.



Above—Shop Foreman Hohn Meek is welding a die-cast carburetor body, this fleet priding itself on white metal salvage. Below—1-ton trucks before and after changing from integral cab-body style

PM REDOUBLED TO DOUBLE

Mid-west bakery fleet intensifies maintenance system and pushes conservation to make its equipment last twice as long

by C. B. HOPPEL
Traffic Manager, Perfection Biscuit Co.,
Fort Wayne, Ind.



C. B. Hoppele

BY January 1 we saw what we would be up against to keep our 61 delivery trucks going. nothing short of twice the average life in former years would solve our problems, we believed. Obviously, a mighty big order.

But the results of six months' trial in the period of crucial shortage of

A group of forms used by the Perfection Bread fleet. Starting with the long form at left, and going clockwise, actual measurements are $9\frac{1}{2} \times 2\frac{3}{4}$ in.; 8×5 in.; $7\frac{1}{4} \times 4$ in.; $5\frac{3}{4} \times 3\frac{3}{4}$ in. and $4\frac{1}{4} \times 1\frac{1}{4}$

TRUCK LIFE

new trucks and replacement parts now make the plan seem possible of achievement. We will double the life of our trucks. We will make our tires, batteries and other replacement needs do double duty with safety . . . and in that process derive more economy.

To show how this is being done let me explain briefly the work our trucks were doing before the emergency, now considered absolutely necessary to serve our dealers as well or better than competition; and

finally what we have done to advance our program without adversely affecting our position with the dealer trade.

We used our $\frac{1}{2}$ to $1\frac{1}{2}$ -ton trucks to deliver fresh bread daily to Fort Wayne stores and surrounding towns in a 50-mile radius, classified as local. Besides, we made special deliveries of all telephone orders any time of day as a good will service.

We have warehouses in Jackson, Michigan; South Bend, Lafayette, Indianapolis, Marion, Anderson, In-

diana; Findlay, Ohio and Detroit, Michigan. We used 1½ to 2-ton trucks out of Fort Wayne to deliver our products—wafers, biscuits and crackers—daily to these wholesale points. Distance to farthest point is 190 miles and 60 miles to the nearest point. From the main distributing centers our baked goods were re-trucked into local dealers' stores by the smaller ½ to 1½-ton units. All returned same day. These dealers were served by our trucks only in Indiana, Michigan, Ohio and Illinois. Other states were served by our jobbers.

Our first step in the salvage-conservation and super maintenance program was a voluntary discontinuation of special deliveries of telephone orders. Ever since January 1 all special orders go out the following day on regular runs. This reduced city delivery mileage nearly one half. One city driver with a 1½-ton truck averaged 350 miles per month. Now he is down to 216. During May a further drastic cut of 25 per cent was made on wholesale city trucks. These drastic reductions in mileage are contributing about 50 per cent to our goal of doubling the life of our trucks.

This curtailment caused no reduction in sales nor loss of any dealer. It is proper to point out that biscuit deliveries were curtailed in like proportion. Once people would have resented this curtailment of service. Now they are cooperating splendidly.

Our delivery truck transportation system is the very life blood and back-bone of our business. Therefore to maintain it in useful and necessary service we began early in January to hold meetings with mechanics and driver salesmen to discuss rules applying to the new conditions. We emphasized the importance of conserving our trucks; and most of all of preventing waste. The boys were keen to cooperate. We supplemented these meetings with bulletins explaining changed rulings from Washington. They contained "do and don't" advice in line with the many changes. Excellent results followed their issuance. To illustrate, on April 14, we obtained a signed pledge from every driver not to exceed 40 miles an hour any time or

(TURN TO PAGE 74, PLEASE)



DAIRY REBUILDS

Here's a story of a fleet operator who converted his shop from a catch-as-catch-can repair system to one well organized with a definite PM program working on a six-week schedule.

Records for this period show that PM greatly lowered operating costs and road failures. Encouraged by these results a major rebuilding job was tried on a few of the older wholesale trucks.

These changes more than doubled their capacity and otherwise proved so successful that practically one third of the fleet, 38, 1½-ton trucks, were so rebuilt. The interesting details are fully explained in these pages.

A black and white head-and-shoulders portrait of a man. He has dark hair and is wearing round-rimmed glasses. He is dressed in a dark suit jacket over a light-colored shirt. The photograph is set against a plain, light-colored background.

decided to try out a systematic Preventive Maintenance Program. Up to that time, there had been no definite program of maintenance. A truck was repaired when it showed signs of mechanical failure or when it actually broke down. It was found that the cost of maintenance under this method was very high.

The results of our first year of operation under a preventive maintenance program have showed greatly lowered operating costs, and have proved to us that systematic inspection and lubrication are the best preventives against unnecessary mechanical maintenance and road failures.

We maintain a well equipped shop. Our equipment includes a valve re-facing machine, motor analyzer, complete welding outfit and all the necessary smaller tools to do any repair job that is required. Recently, we installed fluorescent lighting in the shop. This has been of great benefit to the mechanics, in helping them to

TABLE I FLEET COST -- MONTHLY REPORT		
WHOLESALE DIVISION' 85 Trucks - 3 Coupes		
January 1st, 1942		
Miles Traveled	40,944	
6532 Gals. of Gasoline @ .142	\$1,211.68	
198 Qts. of Oil	.105	20.79
Gressing		17.60
Tire Cost		122.85
Garage Labor		300.91
Chassis Labor Material		239.21
Body Labor Material		264.55
Outside Labor Material		102.29
Operating Cost		33.49
Fixed Charges		423.95
Depreciation		282.63
TOTAL COST	\$2,039.48	
Average Cost Per Unit		101.60
Average Cost Per Mile		.043
Average Operating Cost Per Mile		.074
Average Miles Per Gallon		4.0

TABLE 2 FLEET COST -- MONTHLY REPORT		
RETAIL DIVISION 45 Trucks - 2 Coupes		
January 1st, 1942		
Miles Traveled	63,741	
7697 Gals. of Gasoline @ .142	\$1,092.97	
265 qts. of Oil @ .105	27.65	
Gressing		16.80
Tires		23.06
Chassis Labor Material		186.94
Body Labor Material		222.36
Outside Labor Material		47.89
Garage Labor		23.00
Operating Cost		63.28
Fixed Charges		111.12
Depreciation		365.40
TOTAL COST	\$2,150.56	
Average Cost per Unit		86.06
Average Cost per Mile		.063
Average Operating Cost per Mile		.033
Average Miles per Gallon		8.2



Above—One of the 1 1/2-ton trucks rebuilt to treble the carrying capacity, as described in the article. Far left—These modern forms are the basis of Hegeman Farms' effective control system. Fig. 1—Stock record, 11 in. x 14 in. Fig. 2—Drivers' repair order, 3 1/4 in. x 6 1/4 in. Fig. 3—Daily gasoline and oil consumption report, 9 1/2 in. x 12 in. Fig. 4—This excellent monthly summary, 15 1/4 in. x 22 in., enables this dairy fleet operator to determine, at a glance, the financial status of his fleet, day by day. Fig. 5—This PM work sheet, 8 1/2 in. x 11 in., shows scope of work performed on every truck at six-week intervals. Fig. 6—Tire record, 5 in. x 8 in., aids Hegeman in obtaining maximum mileage.

Regular inspection, tune-ups and lubrication proved so profitable, this dairy fleet operator set out to rebuild trucks for greater loads

by JOHN M. KAVANAGH

Fleet Supervisor, Hegeman Farms Corp., Ridgewood, N. Y.

CREAM OF ITS FLEET

see better and, thereby, perform better work. Each mechanic is supplied with a drop light which uses a 50 watt, 6-volt bulb. The cord is equipped with two small clips which are fastened to the battery of the truck being repaired. Our experience has shown that this type of drop light is much handier than the standard 110-volt type when trucks are in for minor repairs. It eliminates dragging the cord around on the floor and, also, does away with the necessity of having electrical outlets spaced around the shop and garage. We use the standard 110-volt light for major repairs.

Three men are employed to gas,

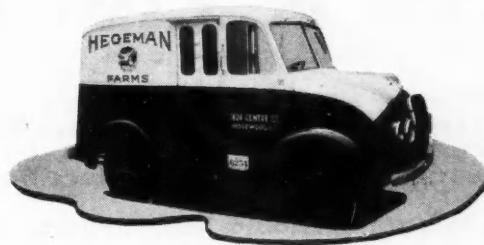
check tires and lubricate our trucks, one man for body work, painting and welding and three mechanics.

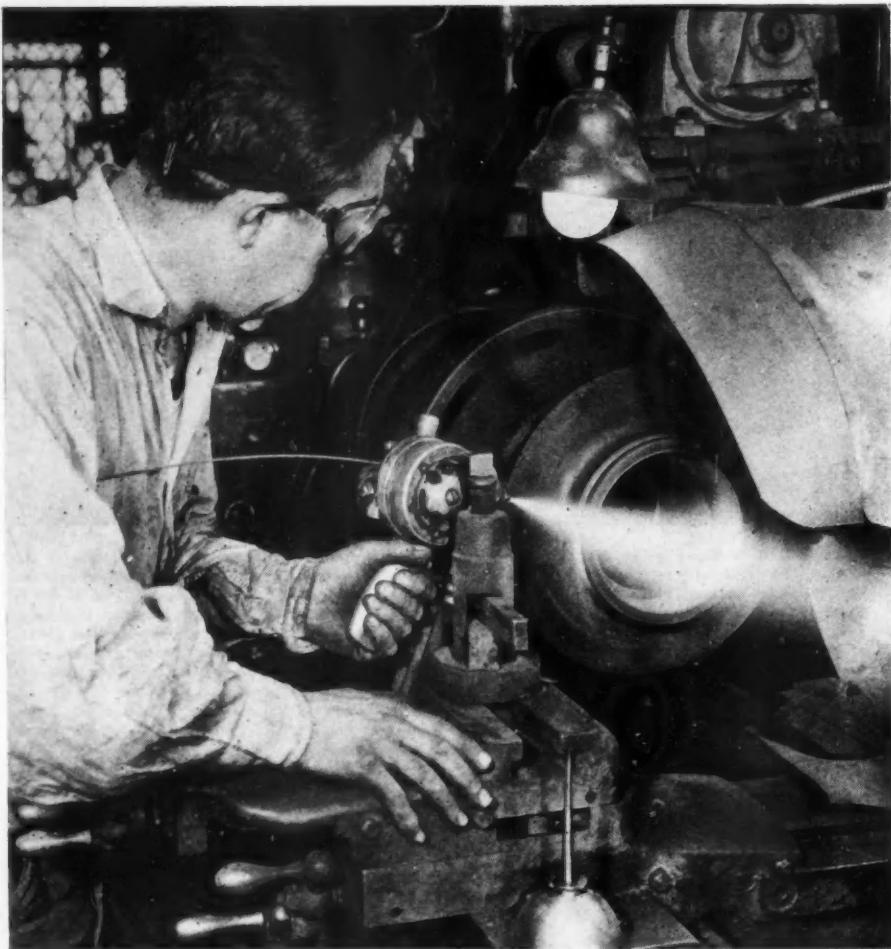
The stock room carries an adequate amount of parts, which includes rebuilt generators, starters, carburetors, fuel pumps and windshield wiper motors. The generators and starters

are sent out to be rebuilt, but we have found that it is cheaper to overhaul the carburetors and fuel pumps in our own shop.

A perpetual stock record, Fig. 1, is kept which shows when parts are ordered, received, reserved, issued

(TURN TO PAGE 102, PLEASE)





This metallizing operation shows inner bearing surface of wheel hub being built up with a steel spray

METALLIZING FACTS & FIGURES

Operating particulars and cost figures that fleet operators interested in salvaging should find very useful

EDITOR'S NOTE: This is the second in a series of technical releases prepared by the Transportation and Maintenance Activity Section of the Society of Automotive Engineers at the request of the Vehicle Maintenance Section, Division of Motor Transport, Office of Defense Transportation, in the campaign to keep America's trucks rolling.

MAINTENANCE and repair methods for trucks and buses must be greatly improved in order to effect increasing shortages of new parts. Even if a

new part can be obtained for a particular repair job, an old part should not be discarded if it can be reconditioned. Many new parts already are difficult to obtain, and auto-

motive experts predict serious shortages unless operators take advantage of modern scientific methods for reusing worn parts.

There are many ways in which parts can be salvaged. They have been largely disregarded in the past because they did not seem economically worthwhile. One of these is metal spraying. Almost any metal with the exception of magnesium and tungsten can be sprayed. The process is not difficult for trained men. While it will not be possible for the ordinary truck operator to do his own spraying, familiarity with the process will help him when he is seeking methods of rebuilding. Some of the larger fleets already have their own spray equipment. Job shops will handle work for the smaller operator.

The essential equipment consists of a small hand mechanism containing a nozzle through which a wire is fed. At the end of that nozzle, several jets of flame impinge on the wire and melt it. Surrounding the wire, nozzle, and flame jets is an annular jet of air under high pressure which picks up these molten particles of metal and atomizes them in the same manner that paint particles are atomized in a paint spray gun. These particles of metal are driven at high velocity against the surface to be coated which results in a solid coating of metal being deposited.

The wire is fed through the nozzle by two knurled feed rolls, which are driven by an air motor. The speed of the motor is adjustable by a throttle. The rate of feed is regulated exactly to equal the rate of wire melting. The spray gun is provided with a handle so that the metal spray is passed over the surface to be coated in exactly the same manner as a paint spray gun is operated. Hose connections are provided on the gun through which acetylene, or propane, and oxygen are delivered to the melting burner of the gun.

Each spray application should receive careful study. If the part to be sprayed is too highly stressed, metal coating is not recommended. The non-existence of fatigue cracks in the foundation should be assured, and the preparation by grit blasting or cutting by special tool of the foundation should be such that the

(TURN TO PAGE 72, PLEASE)

In saving this rear axle shaft flange for further use it is first counterbored to a point where it is level with the end of the axle shaft. Then holes are drilled and drive-fitted with pins made from the stems of discarded valves. Finally the pins are welded together as shown in the illustration and in a manner which the article explains in detail. The entire operation consumed three hours. Customary replacement of this part costs in the neighborhood of \$20.

WE have had a few failures of rear axle shaft flanges on several of our heavy duty dump trucks, where the splines on the flange have completely broken away.

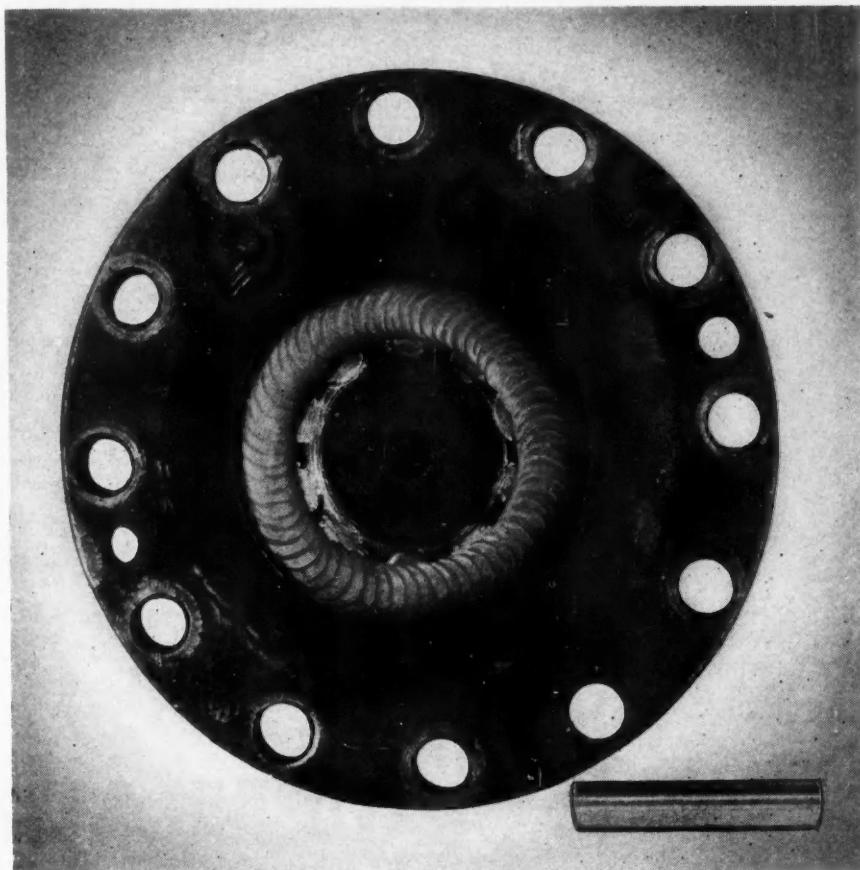
In the past this meant that we had to renew both the axle shaft and the flange, because most truck manufacturers do not sell these parts separately.

However, now that the ODT has issued orders that new parts may not be purchased if the old parts can be repaired, we have worked out a method of repairing these flanges, and we are getting satisfactory results.

First, we counter-bore the flange to a point where it is level with the end of the axle shaft. Then ten 7/16-inch holes are drilled around the flange, and ten pins, 1/2-inch in diameter and 2 inches long are driven in flush with the end of the axle shaft. The pins are a tight drive fit. We use the stems of discarded valves for the pins, after thoroughly polishing the stems with emery cloth. Then, using 3/16-inch steel welding rod, the pins are welded from their center line to the outside edge of the counter-bore. This helps to keep the pins tight and prevents shifting. The weld should not be beyond the center line of the pins, because the heat of welding will affect the axle shaft, and might pull the temper of the shaft.

After the shaft and flange have been welded together, we mount the assembly between centers on a lathe, and take a small cut from the back face of the flange until the shaft and flange run concentric.

The size of the drilled holes, diameter and length of the pins will, of course, depend upon the size of the flange being repaired.



SALVAGING A REAR AXLE SHAFT FLANGE

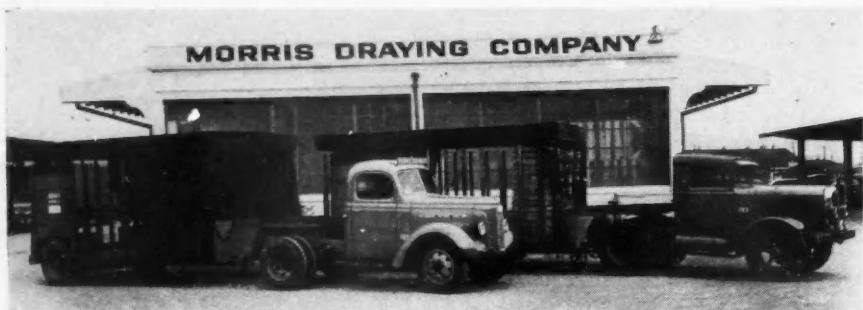
Repair of broken splines is done by welding pins made of old valve stems and conserves new parts costing \$20

by C. A. SCHEIRER

General Supervisor, Repair Shops and Suburban Garages, Philadelphia Electric Co.

This entire operation takes us about three hours to do. The cost of the new parts runs in the neighborhood of \$20. So we are not only

saving a considerable amount of money on this method of repair, but also we are complying with the ODT conservation program.



Several low-bed type trucks used by Morris Draying Co., shown in front of Oakland headquarters



Dean White, the author, cutting down a flange



PM ADJUSTED TO

West coast contract carrier operation bases its system on practical considerations; extensive salvage practiced

by DEAN B. WHITE

Superintendent of Maintenance, Morris Draying Co.,
Oakland, Calif.



Here's one fleet operator who believes that a truck in hand is worth two on order, under war priorities. He's very much of a business man and shows it by proving that lame trucks don't pay a profit. Most of the annual mileage of 900,000 is run up from April to October; the day's run as much as 400 miles over mountainous roads, and the cargoes perishable. His methods are worth studying because by strate-

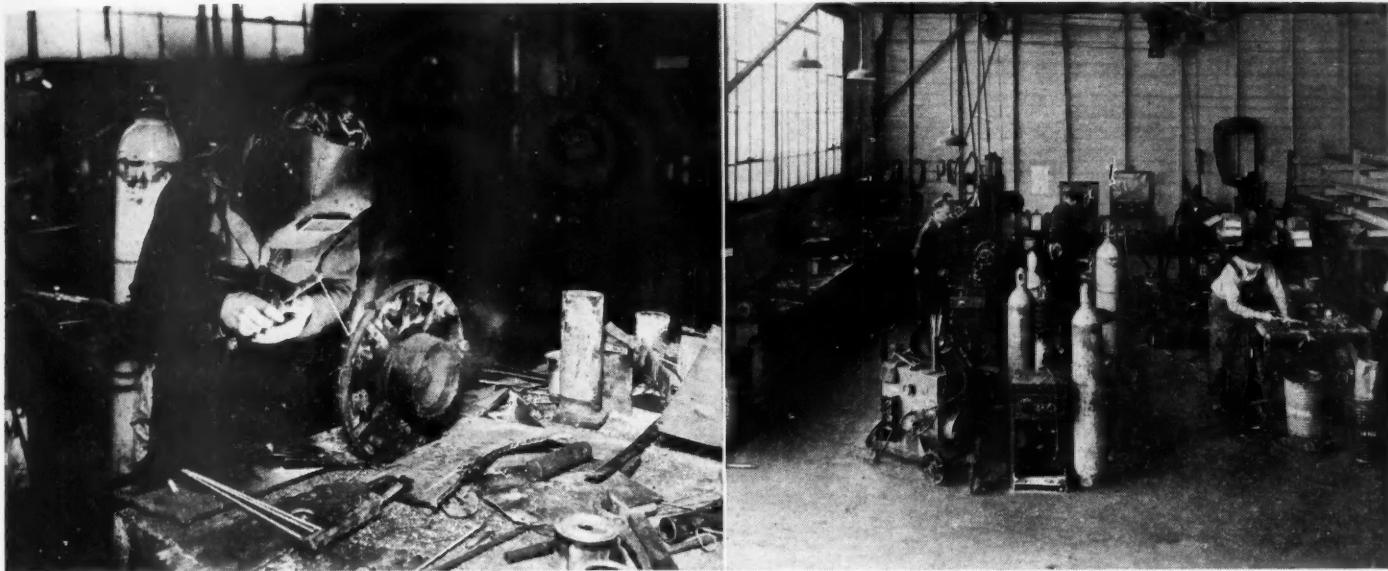
gic rotation of maintenance men over the territory covered, he achieves:

1. Minimum loss of productive time.
2. Minimum gas and oil consumption.
3. Maximum tire mileage.
4. Sound equipment; much of it rebuilt from salvaged materials.
5. Good net profit on every truck.
6. Assurance that he will be in business for a long time to come.



IN order to operate a large truck fleet successfully and efficiently one must be guided in large measure by his own experience, by the condition of the equipment and by the immediate factors of the situation as they develop. That is what we have tried to do—in fact, have been forced to do—in the conduct of the Morris Draying Co.'s fleet. We have followed the path that has led us most directly and most economically — indeed, the terms are in this instance virtually synonymous—to our goal, whether the methods employed have been approved by tradition, factory and competitor or not. We think we have succeeded. At least, we are satisfied.

The Morris Draying Co., which has its main headquarters at 3000 Elmwood St., Oakland, operates something like 125 vehicles, including about 80 trucks, more than 40 trailers and five passenger cars. In addition to these, we have about a dozen pick-up trucks. We cover all of northern and part of central California, from Fresno to the



Left—A wheel being salvaged by welding. Right—A section of the well-equipped shop that helps this West Coast fleet keep repair costs down

SEASONAL DEMANDS

Oregon line, a distance of approximately 1000 miles; and about 200 miles from west to east all along that northerly-southerly line.

Our trucks and other cars travel more than 900,000 miles annually.

Our business is that of an over-the-road contract carrier. We do our business principally with the canneries, carrying by contract the fruits and vegetables from the fields where grown to the canneries.

We have four repair shops, the principal one in Oakland and the others, respectively, in Thornton, Yuba City (adjoining Marysville) and Tagus. We do more than 95 per cent of our own repair work. The balance is merely "insurance" work (after a wreck) and "reciprocity" repairing. We employ about 10 men, 14 in the busy season; one foreman, three lubricators, one tire man, the balance machinists; no helpers, apprentices nor washers. We use no specialists, except an electrician. We stagger our crews; five men on an 8:00 to 5:00 shift; two from 1 to 10 P. M.; one from 10 P. M. to 8 A. M.

We have in effect a preventive maintenance program, which to us has justified itself, although it may differ materially from many other P. M. programs possibly recognized as standard practice. For example, where most fleets pull their wheels every 50,000 miles or so, we pull ours every 30,000 miles. We also check the condition of the frame, examine the brake conditions, make a general inspection of the running gear, a motor overhaul—in fact, an overhaul of the whole unit. We install new rings on nearly every such occasion, on nearly every machine. At about every second overhaul we rebore the motor and make such other changes or repairs as appear necessary. I can assure you that this careful attention pays plenty in savings in oil, savings in fuel and reduction in roadside failures and otherwise.

More than 90 per cent of our hauling is of fruit and vegetables. In the busy season, which means when the vegetables and fruits are ripe, we carry these products in vast quantities to the canneries from the

valleys of central and northern California. If we were hauling general freight a breakdown on the road and a delay of one or two days in the delivery of our loads would not make so much difference—at least, it would not be vital. But in the carrying of fruit time is everything. If we have a road breakdown which requires more than two or three hours to repair, we must transfer the load, sending out another truck to take the place of the disabled one.

We have two busy seasons, which are consecutive. In other words, one is a busier season and the other is a busiest season. The busier season, which is when the canneries are putting up vegetables, begins in April and lasts until June. The busiest season begins in June and lasts about 90 to 100 days, or until the end of September or the first to the middle of October, which is mostly for canning fruit, starting with the apricots in June and ending with the tomatoes in the fall.

We give our spark plugs attention every 5000 miles or so, our elec-

(TURN TO PAGE 90, PLEASE)

FREE

PUBLICATIONS



VALUABLE AIDS FOR FLEETMEN

A selected list of the latest literature — books, pamphlets and catalogs — intended to help fleet operators solve maintenance and operating problems. They are more valuable today than ever before. All are free. To get your copies simply fill in the numbers on the postcard and mail. No stamp is needed.

L27. Tips on Rubber Care

Now that the conservation of rubber is vital, fleet operators will be anxious to know how to prolong the life of rubber products. To help them there is a new 24-page booklet which fully explains the care and preservation of hose, belt, packing and moulded rubber goods. Valuable data for fleet operators will be found in the chapters on proper care and conservation of acetylene, air, gasoline, water, steam and paint spray hoses. Write L27 on the postcard for your free copy.

L28. Electric Brake Facts

The how and why of electric brakes as applied to trucks and tractor-trailers, is described in a 16-page booklet now available. The booklet explains the principle of operation and the method of control. It should be in the hands of all who are not familiar with electric brakes, because it fully explains the many advantages and details of operations. Photographs of some of the fleets that are using electric brakes are shown in the booklet. Write L28 on the postcard for your free copy.

L29. Distributor Servicing

A distributor perfectly adjusted and in good mechanical and electrical condition is one of the prime factors in good engine performance, and of course engine performance affects gasoline mileage, which is an important item with every fleet operator who is trying to conserve fuel or to get the maximum economy. A manual telling all about ignition distribution and the proper method of adjusting and servicing them, is now available. This comprehensive manual should prove of great value to the fleet operator because it gives him the facts about how to keep distributors in good condition. To those fleet operators

who are faced with the necessity of training new men for their shops, this manual will be of great assistance. Write L29 on the postcard for your free copy.

L30. Battery Buying Guide

Truck fleet operators should find very useful a 36-page catalog dealing with the proper selection and servicing of storage batteries. The catalog includes a Battery Selector Chart for use in selecting the proper type of battery. It is understood

that tabulated survey reports of actual driving experience from nearly 100,000 owners went into the making of this Battery Selector Chart. Another feature is the Technical Supplement which deals with the care of batteries and lists battery diseases, their symptoms and prevention. It contains information of value to all fleet operators. Write L30 on the postcard for your free copy.

L31. Machining Aluminum

The subject of machining aluminum and its alloys is dealt with in a 43-page booklet that should be of help to the machinist by supplementing his experience with the information contained therein. The booklet suggests speeds, feeds, and depths of cut which will produce satisfactory results; points out where practices and tools common to other metals may be used; and indicates where special practices or tools are desirable. It should prove of value to the fleet operator who is salvaging aluminum parts. The subject is presented in a clear manner and well illustrated. Write L31 on the postcard for your free copy.



\$650 IN PRIZES FOR SALVAGE INFORMATION

A total of \$650.00 in War Bonds at maturity is being offered by Metallizing Engineering Co., Inc., for detailed information on the salvaging of crankshafts, brake drums, pistons, camshafts, cylinder heads, blocks and other automotive parts with metallizing.

The first prize is \$250; second prize, \$150; third prize, \$100, and three prizes of \$50 each.

The contest is open to all fleet operators who are having or have had automotive parts salvaged by the metallizing process.

This contest is in line with the current ODT program of conservation and salvage and it is hoped that it will result in the accumulation of a great deal of practical information that can be used to the benefit of all truck operators.

If you want to participate in the contest, write C1 on the free postcard and we will see that official entry forms and full details are sent you. The code number is C1.



L32. Body Conservation Parts

A new catalog which lists hard-to-get body conservation parts and supplies for trucks, trailer, busses and pleasure cars, is now available. The 130 pages of this catalog are well illustrated, showing practically every part that is used in the repair of bodies of all types. This catalog should be a must to anyone doing any type of body repair work. Write L32 on the postcard for your free copy.

L33. Cleaning Handbook

The problem of cleaning vehicles, repair parts, garages, terminals, etc., is a perennial one for fleet operators. Therefore they should find extremely helpful an illustrated 50-page handbook known as "The Fleet Operators' Cleaning Handbook." The problems of cleaning engines, chassis, internal mechanisms, parts, bodies, radiators and the stripping of paint are fully discussed. A section is devoted to shop and office cleaning. The handbook covers all the essential phases of easy cleaning methods that are required to keep a fleet operating safely, efficiently and economically. Write L33 on the postcard for your free copy.



NEW PRODUCTS ★

P38. Inner Tube Protector

A new cotton cord protector for tire inner tubes which, it is claimed, will add thousands of miles to old tires already pronounced unfit for use, has just been developed by The Firestone Tire & Rubber Co., Akron, O.

This protector or "girdle" insulates and protects the tube against the chafing action of broken or otherwise damaged inside plies in the cord body of the tire. The protector is shaped in a full circle to fit snugly and neatly around the tube.

In one test the manufacturer used an old tire which had been run flat and supposedly was beyond use because of the



damaged condition of the inside of the cord body. To make the test more severe, a knife was used to cut entirely through the sidewall of the tire in four different places. A tube, incased in the protector, was then inserted in the slashed tire and the tire placed back in operation. This worn tire was then run under excessive flexing conditions for an additional distance of 4055 miles before failure occurred, and this failure was caused by a sectional weak spot in the worn tire.

Use free postcard for more details

P39. Lyon Converts to Wood

Three products necessary in war-time industries but eliminated by steel priorities are now offered in wood by Lyon Metal Products, Inc., Aurora, Illinois. They are shoprobes, lockers and cabinets.

The wood units fill a war-time need in industry, and save vital steel for war production. By converting to wood it is possible to make prompt deliveries of units.

Use free postcard for more details

FOR FLEET OPERATORS

The latest in shop equipment, supplies, replacement parts and accessories developed by manufacturers for fleet operators. For more details of any product described, fill in the number on the postcard and mail. No stamp needed. Also use the postcard for additional information on any product advertised in this issue.

P40. Gas and Oil Additives

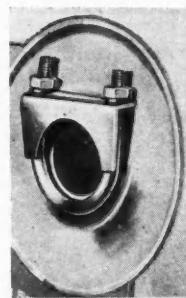
A petroleum product for adding directly into the motor oil, which the maker claims will reduce friction and metal wear, maintain a clean motor, free sticky rings and valves, has just been announced by the Allegany Oil Company, 444 West Grand Ave., Chicago, Ill. Known as "Air-Go" Motor Tonic, it is said to be useful for motor tune-up work.

It is also claimed that it will keep correct sludge conditions, and prevent pitting and corrosion.

Also announced by the same manufacturer is "Air-Go" Gas Fluid, which is added directly to the gasoline. It is claimed that its use will assure complete combustion, and better upper cylinder lubrication.

Use free postcard for more details

P41. Muffler Clamp



For perfect, leak-proof, gas-tight connections between muffler and pipes a two-piece, full-circle clamp is now available. The Maremont Full Circle Muffler Clamp is announced by the Maremont Automotive Products, Inc., Chicago, Ill. It is claimed the clamp will seal muffler and pipes perfectly even if pipes are out of round, and also will reduce installation time. Clamp consists of extra heavy stamping with U-bolt, two nuts and washers. Clamps are packaged two to a box and 15 sizes will take care of every installation.

Use free postcard for more details

P42. Battery for War-Time

A new extra duty battery, with low standing loss as one of its important fea-

tures, has just been announced by The Electric Storage Battery Co., Philadelphia, Pa. Known as the "Exide," type XDG, it has been designed to meet the changes in driving conditions brought about by the rubber shortage and by gas rationing in certain sections of the country.

These conditions, under which driving is curtailed and often limited to short runs with more frequent starting drains on the battery, have made the factor of standing loss a serious one. In 30 days the average battery six months old loses 25 per cent of its available starting power through idleness, and to replace this loss from the generator requires 2½ hours of driving at 25 miles per hour or over. This would cost



from 80 to 100 miles of precious rubber, and from 5 to 6 gallons of equally precious gas to replace this standing loss. The manufacturer claims that the low standing loss feature of its new battery helps to meet this situation.

Use free postcard for more details

**MORE NEW PRODUCTS
ON PAGE 154**

METRO'S METHODS SAVE SCRAP, TIRES & GAS

New York leasing fleet nets several thousands on scrap, betters its tire life 25 per cent and cuts road failures by individualizing responsibility

by LEON C. GREENEBAUM

President, Metropolitan Distributors, Inc., New York City

EDITOR'S NOTE—The War Production Board chose Mr. Greenebaum, who operates 1721 trucks, to head the Scrap, Salvage and Conservation campaign in the motor transportation industry. Knowing that he practices what he preaches, we asked him to tell other fleet operators how his company—Metropolitan Distributors, Inc.—is meeting its responsibilities. His story will be published in two parts. The first one, appearing herewith, deals with scrap, tire and gas conservation. The second will be published next month, and will describe the salvage work that is being done on replacement parts, on bodies and on equipment. Fleet operators will find that the two articles contain much of practical value.



The illustrations above picture a few of the



L. C. Greenebaum

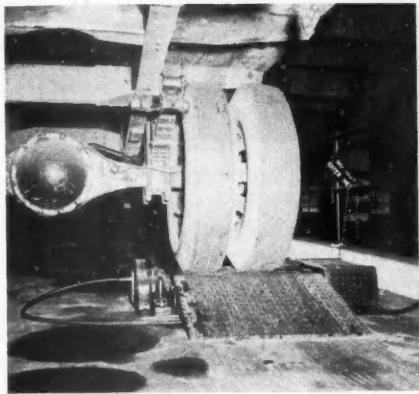
LAST March a call came from Washington asking me to enlist the Motor Transportation Industry—truck, bus and taxicab operators—in the WPB campaign to procure scrap; to salvage every possible part and machine, and to rehabilitate everything that American skill could rebuild for re-use. The object, of course, being to provide scrap for greater steel production on the one hand and lessen the need for new parts and machines on the other.

It was naturally up to me to take my own medicine; to adopt the conservation methods in my own business that I was asking of other fleet operators. Metropolitan Distributors, Inc., which operates 215 separate fleets, is a truck leasing organization; the oldest in the country. Our largest client requires a fleet of 90 trucks, our smallest, 3, and we have a number of customers who use only one or two trucks. Our fleet of 1721 trucks comprises vehicles from the smallest capacities up to 16-ton tankers. We have 32 garages in New York City and New Jersey; 15 of them equipped with repair shops. In addition, a large central repair shop and a mobile repair shop round out the scope of our maintenance operations.

Each client has his particular truck, or trucks, selected and provided with bodies, equipment, etc., to meet his particular needs. Each has his problems to meet and we cannot let one client down to favor another; not even a bigger user. The variety of clients—newspapers, bakers, dairies, department stores, grocers,



many types of motor trucks operated by Metropolitan Distributors which has 32 garages, 15 of them being equipped with facilities to handle repairs



This equipment is used to check speedometers



Proper tire inflation is a scheduled PM item

butchers, oil companies, ice cream, liquors, typewriters, wall paper, etc.—keeps us abreast of conditions.

In our 33 years, we have achieved a high standard of efficiency and economy. The fact that we are still serving our first client is some measure of our economy and efficiency.

But war conditions have taught us a still greater economy and efficiency and I can say with conviction, "We'll never go back to our old ways; as good as they were." Some of our results seem like miracles to us, yet there is nothing miraculous about our accomplishments; any conscientious fleet operator can do likewise.

Our first step was the sale of scrap. During the first half of 1942, we sold more than three times as much scrap as in all of 1941. Also, we have cashed in several thousand dollars' worth of unneeded new parts from our stock because the trucks they were bought for either were no longer in our service or we had a larger reserve than we needed, in the case of older models.

We used to feed the rubbish can small scraps we thought too small to bother about, and even the junkman working the dump disdained to bother with them. Today, every ounce of steel, iron, copper, brass, lead, tin, aluminum, zinc, wool, cotton, rubber, paper, etc., is SAVED AND SOLD!

We have culled our racks of unneeded reconditioned fenders, bumpers, mufflers, exhaust pipes, rear ends, front ends, springs, etc. It is surprising what one can accumulate.

We checked over our machines and tools. In some instances, we made one good machine out of the best parts of several old ones. We got rid of some antiquated equipment that we had kept around because it still was workable but was not suited to present methods and needs.

We encouraged every employee to "Get in the Scrap" by having scrap bins on wheels around our shops and "Salvage for Victory" boxes for bolts and parts worth saving and reconditioning. Our organization has entered into the spirit of the campaign

to provide "Bullets for the Boys"—some of our own boys being in the armed forces.

We certainly will not go back to haphazard handling of scrap, nor will we ever again be satisfied to have idle dollars tied up in an excessive stock of parts or equipment. But the big point is that America NEEDS this scrap to provide the steel to meet our war production demands, so that we can battle our enemies with at least equal equipment. In plain English, steel production is in danger right now because of the scrap shortage, and fleet operators can help overcome the shortage. Each pound you and I sell means two to three pounds of new steel and that means more tanks, planes, guns, ships, etc.

Next comes rubber. With 97 per cent of our rubber supply cut off by the Japanese, rubber economy is a plain necessity. Our organization was surprised at the results we have achieved in the first half of 1942. Six months is not a sufficient period to establish a yardstick, but I am not sure but that we may do even better in the second half of the year.

Compared with the 924 new tires put into service in the first half of 1941, our record to June 30, 1942 is a mere 141 tires. When we saw this report, we immediately looked for a jump in the number of recaps and retreads, but the same period shows a decrease in these, not an increase.

The answer is simple: we are getting far more mileage out of our tires than ever before. An increase of 25 per cent in mileage is not uncommon. One of our tough, multiple stop fleets shows 150 per cent increase in mileage from tires before retreading or junking.

To gain this efficiency, we invite
(TURN TO PAGE 110, PLEASE)



A. Driscoll

ATLANTIC CITY Electric Company has undertaken an ambitious tire and gasoline conservation program for 1942. At the

half-way mark, it has met and exceeded its goal with such success that the program undoubtedly will be pursued for the duration.

The remarkable thing about the program is its simplicity and workability. It is based on pooling company-owned passenger cars; establishment of a specific routed messenger service; careful scheduling of the service truck movements and a P M system that really works. The first three factors are new; since the first of the year. The last, P M, has been efficiently in operation for eight years, although the original plan was improved two years ago and considerably intensified since our entry into the war.

In the formulation of the current program, we have been guided entirely by the probable demands upon our facilities to meet all-out conditions. In times of war, or other national calamity, a utility must provide high capacity service, regardless of sudden increased demands, as smoothly and efficiently as in times of peace and prosperity—if not more so.

"Come hell or highwater, service must go on" is the rigid code of the utilities at any time. Alibis don't go. Even the lack of tires or gasoline would never serve as an excuse for prolonged service failure. There's no way for us to circumvent the problem, even if we wanted to. Over-the-road carriers can reroute a bombed or flooded area. The utilities must go head first into it.

We were fortunate in having much practical experience to use as a foundation for our conservation program. First, there was our own eight-year backlog of P M results. During this period we experimented with every phase of maintenance, until we concluded that trucks can't be checked too often and that a regular inspection program rigidly adhered to pays dividends.

Another thing we learned is that to get maximum mileage, tires must



John B. Clark, tune-up man, giving one of Atlantic City Electric Co.'s trucks a careful check

**Goal is to cut fleet mileage by 1,500,000,
to save 350 tires and 112,000 gallons of
fuel—without affecting consumer service.**

by A. DRISCOLL

Superintendent of Transportation, Atlantic City Electric Co., Atlantic City, N. J.

UTILITY'S DRIVE

be inspected daily for surface abrasions and correct pressures. This inspection still is one of our insistent "musts." Moreover, we experimented with regrooving and recapping. We decided each method serves a purpose. We still do both only we don't let the tires get bald first.

Further, we experimented with patented oil and gasoline saving de-

vices until we became satisfied that the manufacturers' engineers really knew what they were doing when they made operation and service recommendations.

We kept complete and detailed records of every truck from the day it was purchased. Every inspection, service job and breakdown was fully recorded. We could and today still can tell every operator and me-

ROUTE NO. 1

ATLANTIC CITY ELECTRIC COMPANY

MESSENGER SERVICE SCHEDULE SERVING WHITE HORSE, INLAND, RIVER AND WESTERN DIVISIONS

A carryall suburban seating four passengers will be used for this service. Reservations for passengers starting out of Atlantic City should be made two or three days in advance with the Transportation Department. From other points the driver will have instructions to pick up and discharge any (Atlantic City Electric Company employee on company business) to any point on his scheduled route.

LOCATION	ARRIVE	MILEAGE	RUNNING TIME	LAYOVER TIME	LEAVE	CONNECTS WITH BUS OR TRAIN LINES TO OTHER POINTS
Atlantic City Office	7:50 AM			5 Min.	7:55 AM	
A. C. Service Bldg.	8:00 AM	.4	5 Min.	5 "	8:05 AM	
Absecon (W.H.Pike and Station Ave.)	8:20 AM	6.4	15 Min.	A		Pleasantville
Egg Harbor Office	8:38 AM	10.7	18 "	10 "	8:48 AM	
Hammonton Service Bldg.	9:07 AM	11.3	19 "	10 "	9:17 AM	
Hammonton Office	9:22 AM	.4	5 "	10 "	9:32 AM	
Berlin (W.H.Pike and Cedarbrook Rd.)	9:55 AM	13.5	23 "	A		Philadelphia
Clementon Office	10:03 AM	3.4	8 "	10 "	10:13 AM	
Blackwood (B.H.Pike and Clementon Rd.)	10:22 AM	4.3	9 "	A "		

FIG. I

TABLE I

A. C. E. 1942 GASOLINE AND TIRE CONSERVATION PROGRAM

Report Covering 1st period, between
January 26th, 1942, and February 25th, 1942

Total Mileage February 1941.....	227,630
Total Mileage February 1942.....	133,470
Decrease in Mileage.....	94,160
Average Miles per Vehicle, February 1941.....	1,355
Average Miles per Vehicle, February 1942.....	794
Decrease in Mileage.....	561
Total gallons gasoline used February 1941.....	18,344
Total gallons gasoline used February 1942.....	11,157
Decrease in gasoline consumption.....	7,187
Average miles per gallon, February 1941.....	12.409
Average miles per gallon, February 1942.....	11.963
Decrease in average M. P. G.446

TABLE II

A. C. E. 1942 GASOLINE AND TIRE CONSERVATION PROGRAM

Six Months' Report Covering Period (Jan. 26 to July 25, 1941)
(Jan. 26 to July 25, 1942)

Total Mileage Jan. 26 to July 25, 1941.....	1,513,542
Total Mileage Jan. 26 to July 25, 1942.....	747,745
Decrease in Mileage.....	765,797
Average miles per vehicle, 1941.....	9,008
Average miles per vehicle, 1942.....	4,477
Decrease in Mileage.....	4,532
Total gallons gasoline used, 1941.....	114,587
Total gallons gasoline used, 1942.....	57,026
Decrease in gasoline consumption.....	57,561
Average miles per gallon, 1941.....	13.208
Average miles per gallon, 1942.....	13.112
Decrease in average M. P. G.096

Fig. 1. Portion of Atlantic City Electric Co.'s Messenger Service Schedule. This route, covered daily by a suburban carryall with room for passengers, tools and packages, enables employees to travel between the various offices using only a single vehicle to cover a large area. Table I shows results of first month's drive to reduce tire mileage and gasoline consumption. Net result: tire mileage cut 41.4 per cent; gasoline consumption reduced 39.1 per cent. Table II shows six months' average results: tire mileage reduced 50.3 per cent, and gasoline consumption cut 50.2 per cent

HALVES GAS-TIRE USE

chanic assigned to any vehicle. These records were closely studied to enable us to select the best men, the best vehicles and the best P M methods.

The last change in P M was one of organization. Each mechanic was assigned a number of vehicles over which he has been given complete maintenance responsibility. He was, and still is, held account-

able for their condition at all times. Result: No buck passing. Nobody ever touches a vehicle not assigned to him, unless the job is too large for one man. The foreman then will assign another P M mechanic to assist with the job. Each man prides himself on the few, if any, work orders that come in on his vehicles between regular inspection periods.

In 1940 when our government

called for the conservation of natural resources for national defense, we went to work on gasoline conservation plans. The outcome was a merit system to show the operators how they were consuming gasoline with respect to the fleet average consumption.

A general m. p. g. average of the total gasoline consumption was taken. Then records of gas con-

UTILITY DRIVE HALVES GAS-TIRE RATE

(CONTINUED FROM PAGE 45)



MOTOR VEHICLE GASOLINE MILEAGE GROUP REPORT
GROUP Chas Sta. Pass Cars NUMBER OF CARS IN GROUP 61
MONTH OF Jan 1942 AVERAGE M.P.G. FOR ALL CARS IN GROUP 15.3

CARS IN GROUP WITH -A- RATING																		
CAR No.	8	10	12	13	17	18	21	26	28	29	31	32	39	40	125	265	305	450
AVERAGE M.P.G.	15.7	17.5	16	15.4	16.2	20	22	17	16	17.5	17	20	16.9	20.6	125	19.4	16.4	18.9
CARS IN GROUP WITH -B- RATING																		
CAR No.	3	9	11	15	16	20	22	23	35	61	88	165	325	415	465	565	595	840
AVERAGE M.P.G.	14.6	15.3	14.5	15	14.9	14.6	15.1	14.4	15.1	14.3	14.6	14.3	15	14.8	16	17.4	15.1	15.2
CARS IN GROUP WITH -C- RATING																		
CAR No.	14	25	27	30	34	36	37	60	67	370	490	495	624	665	695	925	1870	
AVERAGE M.P.G.	14	11.5	14.1	13	13.8	14.2	10.2	12.5	7.2	11.9	13.8	13.7	12.7	14	12.1			

FIG.2

Chas Sta. GROUP <u>Pass Cars</u> MOTOR VEHICLE GASOLINE MILEAGE REPORT CAR NO. <u>27</u>					
Month of	M.P.G.	Standing of Car in Group	Number of Cars in Group	REMARKS	OPERATOR
JAN	14.1	C	61		C. B. Nelson
FEB	14.3	B	61		
MAR.	14.7	B	62		
APR.	15.3	B	62		
MAY	17.1	A	62		
JUNE					
JULY					
AUG					
SEPT.					
OCT					
NOV					
DEC					
This card is to be signed by the operator and returned to the Transportation Dept. on the 1st of the month.					
INTERPRETATION OF MARKS: (a) Cars with M.P.G. above average for group (b) for group (c) Cars with M.P.G. below average for group (very poor) H above gasoline mileage indicates vehicle is getting less than average M.P.G., follow					

FIG.3

Top. Part of Atlantic City Electric Co.'s 168-vehicle fleet, each equipped with posters urging consumers to aid tire and gasoline conservation by reducing service calls. Fig. 2. Gasoline Mileage Group Report, 5 in. x 8 in., showing vehicles classified A (top row), B (center), and C (bottom row), according to the month's average m.p.g. consumption. Fig. 3. Report card, 4 in. x 6 in., of operator of car No. 27. Note first entry which can be located in third row of bottom group, Fig. 2

FOLLOW THESE DRIVING SUGGESTIONS TO IMPROVE GASOLINE MILEAGE

HOW TO START ENGINE

To get quick starts, depress the clutch pedal (bare foot). Tap the accelerator once to charge the cylinders (light foot). Then start the engine. Floor type (right foot) and use the choke sparingly. To start the engine, use the floor type (right foot) and don't use the choke at all and don't push the accelerator in and out. Don't use the choke when you start the motor, as it wastes gasoline and chokes it, making motor hard to start.

HOW TO WARM UP ENGINE

Use choke sparingly. Excessive choking wears up four times as much gasoline as does warm motor needs. So when your motor is warming up never leave the choke on longer than absolutely necessary.

HOW TO ACCELERATE

Don't jam your foot down on the accelerator and gun your motor while waiting for traffic lights or signals. Accelerate more slowly and pump more gas than you need into your motor. A heavy foot wastes gasoline.

HOW TO SHIFT GEARS

Don't try to hit hills in low gear or second gear. When you exceed 10 M.P.H. in low gear and 20 M.P.H. in second gear you not only burn gasoline but you abuse the motor and transmission. And these speeds affect your fuel economy. Shift gears early and often. Drive in high gear as much as possible—so long as your motor isn't laboring.

HOW FAST TO GO

Don't forget that fuel efficiency goes up to 25 per cent more gasoline per mile at the speed your automobile is set. You can save money and gasoline by driving at 25 miles per hour instead of the speed limit.

HOW TO PARK

Park on the right side of the road so you are sure to turn off the motor never leaving the driver's seat with the motor running. This is for safety as well as economy.

OTHER CONDITIONS WHICH WILL AFFECT GASOLINE MILEAGE

Filling gas tank too often with small amounts of gasoline burns gasoline faster than filling with large amounts. Use of gasoline for purposes other than running vehicle. Late at night. Brakes dragging. Running with hand brakes on. Running with under-inflated tires. Running vehicle with wheels out of alignment.

If after following the above suggestions you still have poor gasoline mileage with this vehicle, please note performance and operating conditions. In this vehicle to make a check on the mechanical condition with the driver to arrive at a vehicle is operating under to keep it below other vehicles in its group.

FIG.4

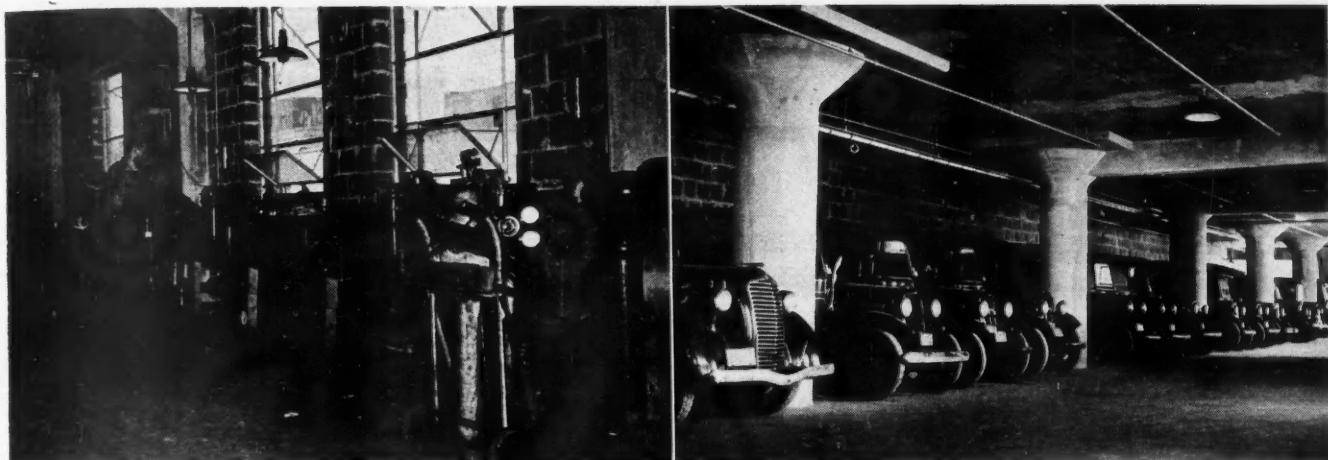
sumption per vehicle were figured out and classified. Operators whose consumption equalled average for the month, or exceeded it were given an A rating. The operators whose records showed that their trucks got within one mile per gallon below the group average were rated B. The remainder, naturally got a C, or very poor rating. Here was where we looked for improvements.

A portion of an actual m. p. g. summary sheet is shown in Fig. 2. Each operator was issued an individual report card on which his rating, the actual mileage he averaged and the number of trucks in the group for that month were shown. Needless to say, it served an excellent index of driver and mechanical operating efficiency. A copy of an actual report card is shown in Fig. 3.

To help the program succeed, meetings were held at which the motor tune-up specialist gave demonstrations, suggestions and instruction on increasing gasoline mileage. A summary, printed on a convenient 4x6 in. card, was distributed generously. A specimen is shown in Fig. 4.

We made oil conservation a partner in this special Defense P M program. All vehicles were closely inspected for oil consumption and many were given an immediate standard ring replacement jobs or other regular, proper corrective treatment. After that, each mechanic kept close check on his list of cars.

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A section of the repair shop and a view of the loading platform of Delivery of Baltimore, Inc., organized by department stores to effect conservation



R. E. Weaver

JUST how successful a group of department stores can be in pooling their delivery activities in compliance with conservation requests and the need for curtailing mileage and saving rubber, gasoline and motorized equipment, is being answered by three stores in Baltimore, Md. These department stores, Hochschild-Kohn & Co., Hutzler Brothers Co., and Stewart Company, pooled their package delivery fleets into an organization now known as Delivery of Baltimore, Inc., and located at Park Ave. and Center Street in Baltimore.

Delivery of Baltimore is probably one of the latest department store delivery pools to go into operation, and while its organization is probably similar in its fundamentals to other pooled fleets, certain functions are entirely of our own innovation and what we can offer on the basis of our limited experience may be of value to others contemplating pooling operations in their own localities.

While the new pool was set up as a corporation, its officers are executives of the three stores involved. The three stores are the stockholders. The business of the pool is conducted by an operating committee composed of the three store managers, myself and my two assistants. The operating committee meets once a week to study operating reports and problems and decide on operating proce-

BALTIMORE STORES FORM TRUCK POOL

Three department stores consolidate local delivery personnel, repair shops and trucks to form 112-vehicle fleet

by R. E. WEAVER

General Manager, Delivery of Baltimore, Inc., Baltimore, Md.

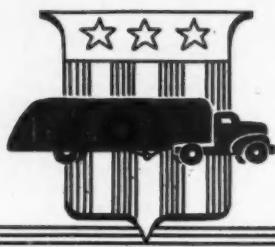
dure. The operating committee decides everything except major policy which is determined by the officers of the corporation.

Delivery of Baltimore occupies two and a half floors of space, or approximately 65,000 square feet, in the new 6-story building erected by Hochschild, Kohn & Co., a member of the pool. The major part of the building is used by Hochschild, Kohn as a warehouse and for furniture display. We occupy the basement, part of the first floor and mezzanine, and the second floor. Vehicles drive up

to an unloading platform on the first floor to unload their packages onto a slide to the routers who mark the packages and place them on moving belts. One of these goes to the second floor and two to the basement where packages are assigned to bins according to route. Trucks drive to the second floor and basement by means of ramps and back into their proper space for loading.

A ramp also leads up to the repair shop on the second floor where all maintenance work is done and where

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ODT QUESTIONS

A Catechism Prepared by the Office of Defense Transportation Which Will Help All

REGARDING JOINT INFORMATION OFFICES

As reported in August issue COMMERCIAL CAR JOURNAL, General Order ODT No. 13 authorized the establishment of Joint Information Offices to assist motor truck operators in carrying out ODT conservation orders. These offices, preparations for the establishment of which are under way, are expected to play an increasingly important part in the over-the-road trucking industry throughout the United States.

In order to expedite the program, ODT has prepared the following answers to questions most frequently asked about the establishment and operation of Joint Information Offices:

1. Q. What, in brief, will the Joint Information Offices do?

A. They will serve as clearing houses for information concerning property awaiting shipment in the hands of carriers and equipment available to haul it.

2. Q. On whom will the offices draw for such information?

A. Joint Information Offices are instructed to receive information only from carriers. Non-carriers will have no voice either in the establishment or operation of the offices.

3. Q. To whom will information be furnished?

A. To any carrier requesting it.

4. Q. Has any provision been made to prevent discrimination against individual carriers?

A. General Order ODT No. 13 requires that requests for information be handled in the order in which they are received, and that information be furnished "without discrimination, preference or partiality."

5. Q. Who is permitted to set up a Joint Information Office?

A. Any two or more carriers or any association of carriers or group of such associations.

6. Q. Where may the offices be set up?

A. At any location formally approved by the Office of Defense Transportation.

7. Q. Has the ODT laid down any rules for selection of such locations?

A. Carriers are cautioned to study local traffic conditions with care before deciding upon the location of Joint Information Offices. Offices are expected to be established at all important traffic centers and any other point where they will be able to function economically and materially assist carriers in carrying out the provisions of the conservation orders.

8. Q. May any Joint Information Office begin operations without formal approval of the ODT?

A. No.

9. Q. In what form will such approval be issued?

A. The carriers will be given a certificate signed by John L. Rogers, Director of the Motor Transport Division, ODT, and approved by Jack Scott, General Counsel, ODT.

10. Q. How will other carriers know whether such a certificate has been issued?

A. The certificates must be posted conspicuously in the Joint Information Offices.

11. Q. Who will operate the Joint Information Offices?

A. Each office will have a manager and a governing committee or board.

12. Q. How will such persons be selected?

A. They will be selected by the carriers, subject to disapproval by the ODT.

13. Q. How will the ODT determine whether to disapprove such personnel?

A. The name and address of each person selected as a member of a governing board, manager or employee, together with accurate information as to his character, experience and past and present employment, must be submitted to the ODT with the application for permission to set up an office.

14. Q. When may a member of a governing board, manager or employee assume authority and start work?

A. Upon the issuance of a certificate authorizing the establishment of a Joint Information Office, unless the selection of any such member, manager or employee has been specifically disapproved by the ODT.

15. Q. After permission to set up an office has been granted, does the ODT have any further control over personnel?

A. The ODT may remove any member of a governing board and any manager or employee at any time.

16. Q. Will the position of manager be a full-time job?

A. That will depend on the amount of work the office has to do. A person in the employ of a carrier may serve as part-time manager of a Joint Information Office only with the approval of the ODT.

17. Q. To whom must an application for permission to set up a Joint Information Office be submitted?

A. To the nearest field office of the Motor Transport Division.

18. Q. Must the applications be submitted on prescribed forms?

A. Yes. All forms and blanks may be obtained from the field offices.

19. Q. What happens to the applications after they have been turned over to the field offices?

A. The applications, together with data as to proposed personnel, are held in the field offices for 10 days. Then they are forwarded to the Motor Transport Division at Washington, D. C., together with the recommendations of the field office managers.

20. Q. What is the purpose of the 10-day delay in forwarding applications to Washington?

A. To give carriers not participating in the application an opportunity to file an objection to the proposal, if they do not approve of the application.

21. Q. How will such carriers know that an application has been submitted?

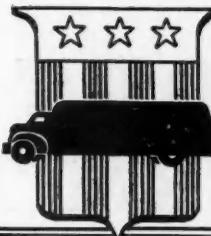
A. At the time an application is filed the participating carriers must notify by U. S. mail a representative number of carriers of all classes operating in or normally serving the point where it is proposed to set up an office. In addition, the manager of the Motor Transport Division field office with which the application is filed will post a notice in his office that such an application has been received. The notice will contain the names of the applicants and the proposed location of the Joint Information Offices.

22. Q. What is the procedure for objecting to the proposed establishment of a Joint Information Office?

A. The objection must be made in writing and must set forth the carrier's reasons for opposing the application.

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AND ANSWERS



Classes of Truck Operators to a Clearer Understanding of What is Expected of Them

The following series of questions and answers designed to aid truckers and the general public in carrying out the provisions of the Office of Defense Transportation truck conservation orders has been issued by the ODT:

1. Q. When do the new regulations become effective?

A. General Order ODT No. 3, Revised, becomes effective Aug. 1. General Order ODT No. 17 becomes effective Aug. 1, except for one main provision, which takes effect Sept. 1.

2. Q. What truck operations are affected by new or revised orders?

A. Operations of all trucks are affected to some extent, except tank trucks, trucks controlled or operated by persons whose principal occupation is farming, trucks controlled, owned or operated by the armed forces, and trucks operated within the boundaries of any industrial or manufacturing plant.

3. Q. How have the various truck operations been reclassified by new or revised orders?

A. Originally there were four truck conservation orders. Order 3 covered over-the-road operations of common carriers. Order 4 covered over-the-road operations of contract carriers. Order 5 covered over-the-road operations of private carriers. Order 6 covered local delivery operations of common, contract and private carriers. Under the new set-up, operations of private and contract carriers, both local and over-the-road, will be under General Order ODT No. 17. Over-the-road operations of common carriers will be under General Order ODT No. 3, Revised, and local delivery operations of common carriers will be under order 6, which is to be revised.

4. Q. How are the various types of carriers defined in the orders?

A. Carriers which hold themselves out to the general public to transport property for hire are defined as "common carriers". All others, including contract and private carriers, are defined as "motor carriers". Thus, common carriers come under Orders 3 and 6, all others under Order 17.

5. Q. Which of the original orders will Order 17 supplant?

A. Order 17 takes the place of Orders 4 and 5 and all provisions of Order 6 as they apply to contract and private carriers.

REGARDING GENERAL CONSERVATION ORDERS

6. Q. Do the new or revised orders make any change in mileage reduction requirements for trucks?

A. Under the original orders, which remain in effect until supplanted by new and revised orders, only carriers engaged in local delivery service are required to reduce mileage. The mileage reduction required is 25 per cent, as compared with the corresponding month of 1941, after elimination of certain non-essential services. Under Order 17, the 25 per cent mileage reduction requirement has been extended to all operations of contract and private carriers, over-the-road as well as local. There is no mileage restriction on over-the-road operations of common carriers.

7. Q. How is local delivery service distinguished from over-the-road service?

A. Local delivery service includes any operation within a municipality or urban community and within 25 air miles of its boundaries. It also includes any operation within or between contiguous municipalities or urban communities or any operation of not more than 25 miles in length. All other operations are considered as over-the-road service.

8. Q. When does a delivery originating outside the boundaries of a municipality or urban community become an over-the-road operation?

A. When the truck has traveled more than 25 miles in making the delivery. Any truck operation of not more than 25 miles in length is a local delivery operation, under the orders.

9. Q. Are there any circumstances in which an operation of more than 25 miles in length would be a local delivery operation, under the orders?

A. Yes. A delivery originating at the center of a large municipality and terminating 25 air miles from its boundaries would involve considerably more mileage but would still be a local delivery, under the orders. The same would be true of a delivery originating in one municipality and terminating in a contiguous municipality, although the operation might cover more than 25 miles.

10. Q. If a carrier was not operating during the corresponding month of last

year, what does he use as a basis for mileage reduction?

A. The mileage traveled during May, 1942, must be used in such cases.

11. Q. What about a carrier who was not in operation during May, 1942?

A. Such carrier is prohibited from instituting or continuing a truck operation until the mileage which such carrier may operate has been determined and approved by the ODT.

12. Q. May a carrier maintaining operating bases in several cities base his mileage reduction on his entire operation?

A. No. The mileage of each operating unit must be reduced 25 per cent.

13. Q. Does the 25 per cent reduction apply to the total mileage of the operating unit?

A. Not necessarily. Contract and private carriers are required to eliminate all special deliveries, except to hospitals, all call backs and more than one delivery a day to the same point, except under certain circumstances. After the mileage operated in such services has been deducted from the total mileage of an operating unit, the remaining mileage must be reduced 25 per cent.

14. Q. What is an operating unit, under Order 17?

A. A fleet of trucks operating from the same general base constitutes an operating unit.

15. Q. May such an operating base include two or more terminals or loading platforms?

A. Yes, if they are in the same city.

16. Q. In the event a carrier has added to the mileage of an operating unit during the preceding 12 months through the purchase of a new operation, how does he go about determining how much mileage to eliminate?

A. The purchaser must first determine the number of miles driven in the acquired operation during the month of 1941 which is to be used as a basis for comparison. Then he must add this mileage to the mileage of his original operation in such unit for that month. The mileage of the operating unit for the corresponding month of 1942 must be reduced by an amount equal to 25 per cent of this total.

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ODT PERMITS AND BRIEFS

Thirteen general permits relieving motor carriers engaged in special operations from various provisions of General Order ODT No. 17 were issued by Joseph B. Eastman, ODT Chief. They are as follows:

General Permit ODT No. 17-1 exempts trucks operated by contract and private carriers from certain provisions of the new order when transporting farm commodities and supplies.

General Permit ODT No. 17-2 allows contract and private carriers transporting solid fuels to reduce the mileage of each operating unit on the basis of miles per ton delivered. Otherwise they must make a flat 25 per cent reduction.

General Permit ODT No. 17-3 applies to trucks engaged exclusively in the transportation and delivery of newspapers. They are exempt from the capacity load provisions and may return empty to their base of operations. The number of deliveries is determined by a population scale.

General Permit ODT No. 17-4 exempts motor carriers from restrictions on the number of deliveries to ships and allows special deliveries.

General Permit ODT No. 17-5 exempts trucks operating in mining, smelting or refining industries under a Preference Rating Order or a WPB Certificate of Operation from the mileage and lease-rent provisions.

General Permit ODT No. 17-6 permits motor carriers engaged in transporting ice to make more than one delivery per day to another carrier and two deliveries to any industrial air conditioning plant or retailer.

General Permit ODT No. 17-7 exempts carriers engaged in transporting rubber or metal scrap from the mileage reduction requirement and the rent-lease conditions. Permit extends only to Oct. 31.

General Permit ODT No. 17-8 allows motor carriers operating restaurants and central kitchens to make three deliveries of prepared foods per day.

General Permit ODT No. 17-9 permits motor carriers transporting "copy proofs, tracings or other unfinished products for printing" to make three deliveries per day.

General Permit ODT No. 17-10 permits carriers owning and operating bakeries and retail stores where their products are sold to make three deliveries, if 75 per cent of the baked goods are delivered unwrapped.

General Permit ODT No. 17-11 exempts trucks engaged in transporting forest products from the mileage, lease and rental provisions, when such vehicles are operated from the point of production to the near-

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WPB NEWS

Vehicle Rationing List Expanded

Amendment 2 made recently to General Conservation Order M-100 added two important units to the list of rationable equipment: "trailer dollies having a load carrying capacity of 10,000 lb. or more," and "attachment third axles having a load carrying capacity of 8000 lb. or more." Other changes include:

1. Elimination of the phrase "has been driven less than 1000 miles."

2. Inclusion of new commercial vehicles operating both on or off highways for transporting property or persons.

3. A specific list of new commercial motor vehicles embraced in, or excluded from, Order M-100.

The amended list follows:

Trucks, truck chassis, truck tractors, off-the-highway motor vehicles, full trailers, semi-trailers, dollies, attachment third axles, ambulances, hearses, bus chassis, station wagons, carry-all suburbans, sedan deliveries, utility sedans, coupes fitted with pick-up boxes and cab pick-ups, but not including taxicabs and integral-type buses.

The Allocation Section of ODT has issued instructions that applicants for third axles and dollies describe such equipment in the trailer boxes of the PD-310 forms.

Replacement Parts Order Amended

Limitation Order L-158, governing the production of spare parts for automotive equipment, has been amended. Manufacturers may schedule production of such parts without regard to orders placed with them rated lower than A-1-a.

The amendment also changes the need for consumers to turn in a used part for every part purchased. This will take care of cases where an old part cannot be turned in at the time the new part is required, such as in breakdowns on the road. Now, a manufacturer or distributor may sell and deliver any replacement part to a consumer without receiving a used part in exchange, provided:

1. That the part purchased is not installed in the consumer's vehicle by the seller.

2. That the consumer sign a statement certifying that he will use the new part for replacement purposes only and will, within 30 days after purchase, dispose of his used part through regular scrap channels. The use of the certificate does not apply to parts consumed in use, lost or stolen.

The amendment is intended to aid consumers who are in a position to repair

their own vehicles and who would not find it expedient to have the work done outside.

The amendment also clarified the definition of a truck trailer to include passenger trailers. The definition now reads: "Truck trailers means a complete semi-trailer or full-trailer having a load-carrying capacity of 10,000 lb. or more, as authorized by the manufacturer thereof, and designed exclusively for the transportation of property or persons, or the chassis therefor."

Construction Equipment Available

A survey made by the WPB indicates that there is sufficient road construction equipment in the country for all subdivisions of governments for at least the next two years, provided that it is carefully maintained.

Figures showing the availability of mobile road construction equipment in the United States were released by the Bureau of Governmental Requirements, WPB. They are: Tractors, 16,693; motor graders, 16,773; pull type graders, 16,005; scrapers and carryalls, 4958; maintainers, 3250; angle and bulldozers, 1382; snow plows, 25,347, and varying amounts of 27 other classes of equipment used in the construction and maintenance of roads.

State and local highway officials who desire to obtain the use of such equipment should write to the Bureau of Governmental Requirements, which seeks to put local governments in touch with other governmental units whose equipment may be lent or rented.

Tire Regrooving Curbed

Tires may not be regrooved without special, written permission of the Director General for Operations, WPB. This regulation was ordered upon the recommendation of the OPA which declared that the practice was uneconomical and that it rendered a tire unsuitable for recapping in the future.

More Antimony for Batteries

Longer-lasting automotive batteries were made possible by an amendment to Order M-112 permitting use of a higher content of antimony in the manufacture of grids.

This action increases the permitted antimony content of alloys for grids from 7½ per cent, by weight, to 12 per cent, provided only secondary antimonial lead is used. Limitation on the manufacture of automotive batteries has resulted in an increasing secondary antimonial lead supply.

LAND O'LAKES CREAMERIES



Exide batteries in this 68 truck fleet have a life-expectancy of 100,000 miles apiece.

When your annual trucking mileage tops 3,000,000 miles a year, the equipment bought for your fleet should be the best . . . and be bought to last.

That's why the Land O'Lakes Creameries, operating a 68 truck fleet in Minnesota and Wisconsin, is whole-heartedly in accord with Exide's *Buy to Last—Save to Win* policy. For 21 years, Land O'Lakes—a co-operative organization of over 100,000 farmers—has served the nation with quality dairy, egg and poultry products. Land O'Lakes' big fleet covers 3,248,000 miles yearly . . . and their Exide Batteries give 100,000 miles service in Diesel trucks. They know that buying quality Exide Batteries means longer service at lower cost. And proper care of an Exide Battery saves vital materials for Uncle Sam. *Buy to Last—Save to Win* is the keynote of Land O'Lakes' operating policy.

THE ELECTRIC STORAGE BATTERY CO., Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto



Exide

EXTRA DUTY
BATTERIES



RATIONING NEWS

Tire Allotments Must Go Down

The Office of Price Administration called upon local War Price and Rationing Boards for the "strictest possible interpretation" of a recent amendment to tire rationing regulations restricting truck eligibility to vehicles essential to the war effort or public health and safety.

A letter to the local boards explained that WPB, which allocates rubber for military, civilian and other uses, has notified OPA that allotments for tires must follow a downward trend for the remaining months of 1942, in order to stay within the amount of rubber earmarked for the purpose.

Truck Tire Quotas Cut

The quota for new truck tires for the states and territories for September is 239,445 against 316,695 for August. The quota of recapped tires and recapping services is 262,258 compared with 355,883. The inner tube allotment is 262,261 against 347,696.

No Extra Gasoline for Sales Cars

The Office of Price Administration has ruled that the Gasoline Rationing Regulations cannot at this time be modified to give salesmen preferred mileage classification in view of the increasingly grave petroleum transportation shortage in the East.

Under present gasoline rationing regulations salesmen are eligible for both the "A" and "B" ration books which provide them up to 470 miles a month of vocational driving, plus about 90 miles a month for family emergency use.

OPA Price Controls Revised

Revision of Federal price controls over service industries and trades to include wholesale services, commercial and industrial consumers, as well as ultimate consumers, was announced by Price Administrator Leon Henderson.

Repair and rental of automobiles, trucks, tractors and buses were included among the 61 major groups of services set up by the new regulation.

Hasek Heads No. 10 Appeal Board

The Office of Defense Transportation announced recently that E. A. Hasek, of Kansas City, Mo., was named chairman of the Local Appeal Board serving District No. 10, with headquarters at Kansas City. He replaces R. P. Rice, also of Kansas City.

62,108 Vehicles Rationed

From the start of truck rationing, March 9 to Aug. 15, a total of 62,108 vehicles in all categories has been released. This includes 5532 light, 14,936 medium and 4717 heavy trucks, 3443 trailers and 547 miscellaneous vehicles for civilian users, and 10,511 light, 14,110 medium and 4085 heavy trucks, 1072 trailers and 3155 miscellaneous vehicles for GEP holders. Miscellaneous vehicles include station wagons, ambulances, hearses, and so forth.

Coal Hauling Rates Set

Specific maximum rates for trucks hauling coal from mines to beehive coke ovens in Fayette, Greene and Westmoreland Counties, Pennsylvania, were established by the Office of Price Administration on a mileage basis. Special charges, conforming to March practices, were allowed.

East Coast Fuel Prices Drop

Maximum gasoline prices along the eastern seaboard were reduced 2½ cents a gallon on August 5. Simultaneously, reductions of nine-tenths cent per gallon for kerosene, 1.1 cents a gallon on distillates and light heating oils, and 15 cents per barrel on residual fuel oils were made.

These reductions were made possible under an arrangement whereby the RFC absorbed the abnormal transportation costs involved in moving petroleum products from the Gulf Coast and inland points to the Atlantic seaboard.

Texas-Illinois Pipeline Under Way

Actual laying of pipe for the big 24-inch line from Texas to Illinois, to help supply the East Coast's essential petroleum requirements this winter, is now under way in the Southwest, Petroleum Coordinator for War, Harold L. Ickes, announced. When completed in December, the line will deliver 300,000 barrels of East Texas crude oil each day in Illinois for transhipment eastward by railroad tank car, river barge, and pipeline.

OPA to Control Tire Warehousing

To prevent tie-ups of essential transportation, manufacturers will be permitted, under certain restrictions, to store tires and tubes regionally in private warehouses and other premises to expedite delivery of tires when urgently needed.

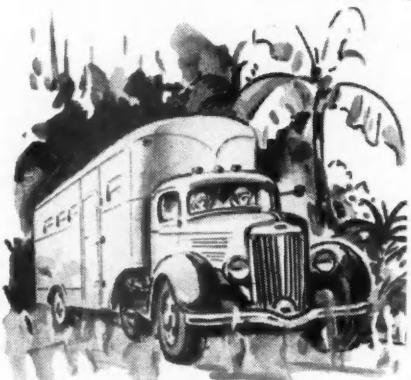
The object is to correct present unsatisfactory conditions in the retail tire field where dealers do not have all sizes on their shelves.



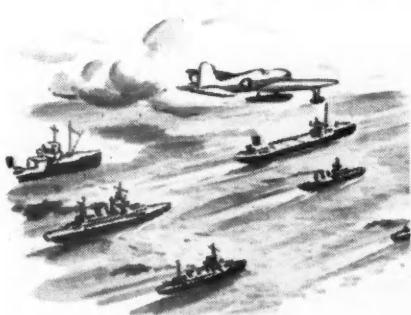
The above map shows the Eastern gasoline rationed area. The line on the right, extending from Lake Ontario to the Gulf, defines the seaboard section in which the coupon plan is now in operation. The seven western New York counties in the enclosed area, where gasoline deliveries to dealers have been curtailed 33 1/3 per cent, come under the rationing program on August 22. The line on the left, which roughly parallels the rationing boundary, outlines the buffer zone in which deliveries of gasoline to dealers are curtailed 25 per cent.



It takes a caravan of steel to keep desert supply lines open



WHERE HEAT AND HUMIDITY—
are at their worst, Lindsay Structure combat bodies stand up... assure long service life.



WHERE FREIGHT OR CARGO SPACE IS SCARCE—Lindsay Structure bodies, shipped knocked down, require a minimum of space. Hence, more trucks in each shipment.

LINDSAY STRUCTURE COMBAT BODIES —

**.. CARRY ON UNDER SEVERE CONDITIONS IN "WORST POSSIBLE" CLIMATE
.. MAKE IT POSSIBLE TO GET MORE TRUCKS TO THE FRONT**

Blistering deserts—humid jungles—place new, unusual burdens on the vehicles that must carry food and supplies to far away fighting fronts.

Shell holes, rocks, soft sand, and destructive heat have shown that only all-steel combat vehicles will insure dependable operation, continuous service. The practical solution for combat truck body construction has been found in Lindsay Structure. This unique assembly utilizes all the strength in light sheet metal while saving greatly in steel and weight (over 1000 lbs. per unit in the case of the

Canadian army mobile workshop).

Lindsay Structure combat bodies are proof against desert heat and tropical humidity—have the amazing strength necessary for rigorous wartime service. Furthermore, they can be shipped "knocked down"—saving priceless cargo space—and can be quickly assembled with simple wrenches by unskilled workers.

Lindsay Structure provides a steel conserving solution for many vital war problems. Investigate its advantages now. Dry-Zero Corporation, 222 North Bank Drive, Chicago, Illinois; or 60 East 42nd Street, New York, New York



Lindsay Structure with its pre-tensioned sheets achieves extraordinary strength with light weight.

LINDSAY
S STRUCTURE

U. S. Patents 2017629, 2263510, 2263511
U. S. and Foreign Patents Pending

LINDSAY STRUCTURE CAN SAVE THOUSANDS OF TONS OF STEEL

NEWSCAST



SAE to Meet at New York

Practical plans for operating and maintaining America's fleets of motor trucks, buses, and passenger cars under wartime conditions will be considered at the East Coast War Transportation and maintenance Meeting of the Society of Automotive Engineers to be held October 7 and 8 in the Hotel Pennsylvania at New York. The four technical sessions and dinner which comprise the program will have only five speakers, so that the greater proportion of the time may be utilized by fleet operators in discussing pertinent problems.

SAE Vice President J. Y. Ray, supervisor of automotive equipment for the Virginia Electric & Power Co., Richmond, Va., is chairman of the SAE Transportation and Maintenance Activity Committee which will have charge. E. W. Templin, automotive engineer, Los Angeles Department of Water & Power, Los Angeles, Calif., is vice-chairman. The program follows:

Wednesday, October 7—Morning: "Expander-Type Piston Rings to Prevent Excessive Cylinder Reconditioning," Paul Friend, Wilkening Mfg. Co., Philadelphia. Afternoon: "Highway to Victory," William J. Cumming, chief, Maintenance Section, Office of Defense Transportation, Washington, D. C. Evening Dinner: "War on Wheels," A. W. Herrington, president, Society of Automotive Engineers; Marmon-Herrington Co., Indianapolis, Ind.

Thursday, October 8—Morning: "Standard Practice Instructions," J. Willard Lord, The Atlantic Refining Co., Philadelphia, Pa. Afternoon: "Metal-Coating of Automotive Parts," John Wakefield, Metallizing Engineering Co., Long Island City, N. Y.

ODT Extended to Puerto Rico

Joseph B. Eastman, Director of Defense Transportation, announced the appointment of a special commission to investigate conditions in Puerto Rico with a view, particularly, to the development of a conservation program for trucks and buses.

Mr. de Quevedo, chairman of the commission, is a native of Puerto Rico, a transportation lawyer and a former member of the Interstate Commerce Commission.

Other members are: M. E. Nuttila, New York City, maintenance engineer, Cities Service Oil Company; William Adams, district director, Bureau of Motor Carriers, ICC, Atlanta; and R. A. L. Bogan, Chicago, vice-president, Greyhound Corp.

Army Orders 880,000 Trucks

In one day the Army purchased 880,000 trucks and trailers at a cost exceeding \$1,500,000,000. 64 separate contracts were issued to 41 manufacturers, the War Department announced, representing most of the country's truck and vehicle industry.

Purchase was made by Motor Transport Service, formerly with Quartermaster Corps, now part of the Ordnance Department. The awards were approved the following day by Services of Supply.

Majority of the new trucks will have wood bodies, thus conserving critical metal. Conversion to wood bodies began in April, is expected to be complete after October this year, and applies to cargo trucks of 1½-ton capacity and heavier. It indicates a saving of approximately 75,000 tons of steel in 1942, and probably 350,000 tons in 1943.

Steel-bodied cargo trucks are still required for tropical usage because metal resists insect and weather damage.

Truckers Petition ICC

A petition has been filed with the Interstate Commerce Commission by the American Trucking Association requesting an extension of the hours of service regulations to aid truckers in complying with the various ODT orders. The request is based on the claim that existing hours of service are inadequate in view of: 1, the 40-m.p.h. speed limit; 2, the necessity of complying with black-out and dim-out regulation; 3, the scarcity of trained personnel.

U. S. Scrap Metal Quota 17,000,000

The Conservation Division, under its new National Salvage Program, set an over-all goal of 17,000,000 tons of scrap iron and steel to be collected in the six months ending Dec. 31.

Quotas have been established for each state on data furnished by the United States Bureau of Mines showing state-by-state shipments of scrap to consuming mills, and on the basis of experience in previous collections.

Bowser Wins Army-Navy "E" Award

S. F. Bowser & Co., Inc., Fort Wayne, Ind., and its subsidiary, The Fostoria Screw Company of Fostoria, Ohio, were accorded the joint Army-Navy "E" Production Award for "exceeding production expectation."



G. A. Bassett has been appointed president of Gar Wood Industries, Inc., Detroit. His background of experience covers 28 years with Gar Wood



Deloss Cummins has been appointed service manager of the Cummins Engine Co. He started on the assembly line in 1915, was appointed factory superintendent in 1924, and transferred to the service department in 1929.



The American Bosch Corp., Springfield, Mass., announces the appointment of W. Chester Robinson (left) as executive assistant to Vice-President Edward H. Moll who has charge of manufacturing operations. Bruno Loosser (right) has been appointed chief engineer. He was formerly associated with Mack Truck for 20 years



Richard K. Scales has been appointed assistant director of the technical service department of the Ethyl Corp., in Detroit. He joined the corporation in 1929 and worked in research on chemical compounds. Later he held several positions in the sales department, then went to Australia as assistant manager for Ethyl Export Corp. He returned to this country in 1937 to join the technical sales division in Detroit



T. L. Preble, supervisor of automotive equipment, Tidewater Associated Oil Co., who has been commissioned a colonel, U. S. Army Ordnance, Maintenance Branch, Field Service Division

Dearborn Joins Safety Council

Ned H. Dearborn, of New York City, has been named executive vice-president and managing director of the National Safety Council, Chicago. He succeeds W. H. (TURN TO PAGE 56, PLEASE)



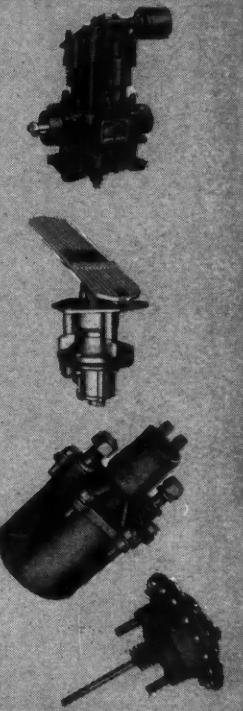
See for Yourself Why "Those Who KNOW Power Brakes Choose MIDLAND"

LOOK AT THESE EXCLUSIVE
AIR BRAKE KIT FEATURES

BIG 7.3 CU. FT.
COMPRESSOR
with governor as
integral part

Fully compensating
TREADLE VALVE
same as used in heavy
duty trucks

YOUR CHOICE
of diaphragm
chambers or cylinders



MIDLAND KITS

Available for 1942 Models

Air

Ford, Chevrolet, Dodge, International,
G. M. C. and Diamond T

Vacuum

Ford, Chevrolet, International,
Dodge and G. M. C.

● When you gain so many advantages by specifying
MIDLAND Power Brake Equipment, *why buy any
other kind?*

Midland Kits, for example, contain the same high
quality, heavy duty parts as those used as *standard equipment*
on large size trucks, tractors, and trailers!

For thorough engineering, quicker installation, less
maintenance and the famous "Factory Rebuilt Exchange
Plan," choose MIDLAND Power Brakes. Get complete
details at your nearest Midland Distributor — or
write us direct.

THE MIDLAND STEEL PRODUCTS CO.
10605 Madison Avenue • Cleveland, Ohio
Export Dept.—38 Pearl Street, New York City



MIDLAND POWER BRAKES
(CHRISTENSEN)





Painted in red, white and blue, and bearing slogans boosting War Bond purchases, three trucks and cars in the Chicago fleet of Brink's Inc., are the first of one thousand streamlined money trucks and cars soon to be put to similar use throughout the nation wherever the Brink company operates. This "Liberty Fleet" represents the vanguard of War Bond advertising trucks, cars, busses, street cars and railroad coaches which the U. S. Treasury hopes to see operated on a national scale. The Treasury is asking truck fleet operators and other transportation firms to enlist one or more of their units in this fashion to help spur bond buying.

NEWCAST

(CONTINUED FROM PAGE 54)

Cameron, who is retiring after almost 30 years as managing director of the council. Since 1934, Mr. Dearborn has been dean of the division of general education of New York University. In his new position he will direct the greatly expanded wartime program now being conducted by the National Safety Council.

Cummins Regional Office Enlarged

The Cummins Engine Company enlarged its regional offices at Fort Worth, Texas. Formerly located in the Mid-Continent Building, Cummins acquired larger quarters at 1812 Fair Building. J. B. Chambers, regional manager, continues to direct sales and service through the distributors, the Mid-Continent Supply Company and the Cummins Diesel Sales and Service Company, Inc.

Pennsylvania Rubber Elects Treasurer

Mr. Howard W. Jordan, president, Pennsylvania Rubber Co., announced the election of D. C. Woods as treasurer.

Mr. Woods replaces C. G. Merrill, who is retiring after 42 years of service.

OPA Probes Fake Gas Ration Coupons

Gasoline coupon counterfeitors must be prosecuted as rigorously as any saboteurs attacking our war program, Leon Henderson, OPA Administrator, declares. Reports that fake ration books are being peddled to motorists have reached the Office of Price Administration from various points in the rationed area.

Depend on WITTEK

NOC-OUT HOSE CLAMPS

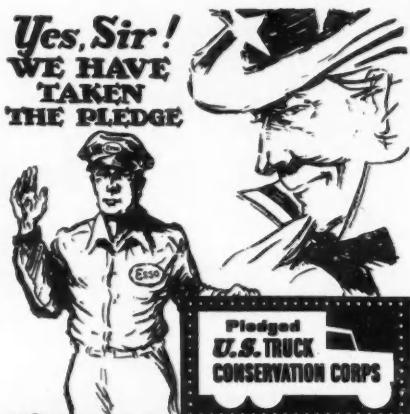
TYPE GM

Type A — Adjustable For Replacement.

The Standard Of The Industry For Quick-tightening, perfect leakproof hose connections

Type HP — For High Pressure Requirements.

WITTEK MANUFACTURING CO.
4005-15 W. 24th Place, Chicago, Ill.



Esso accidents reduced 45%
During 1st 6 months of 1942
Keep up the Good Work!

Esso Marketers are distributing to all their bulk plants a monthly safety poster calling attention to the U. S. Truck Conservation Corps pledge. This poster also records a reduction of 45 per cent in accidents during the first six months of 1942 as compared with the same period in 1941. The U. S. Truck Conservation Corps decal is placed on both sides of all Esso commercial vehicles. A copy of the ODT manual is given to each motor vehicle driver and mechanic and a special War-Time Instruction Manual is placed in the hands of all vehicle drivers.



(All weighed-in on the platform scale, another Mack-load of coal gets the go-ahead and rolls away. Sketched from life, near Scranton, by Peter Helck.)

Well-known American, at work!

THE SAYING "Built like a Mack Truck" is something more than a slang phrase. It is an acute observation on the difference between a Mack . . . and just a truck! It worked into the language because of the way a Mack works into a job. The first Mack, built in 1900, served 17 years. No one knows . . . yet . . . what records today's Macks will make. But you can put it down as sure that the first Mack, today's Mack, tomorrow's Mack . . . all set out to be the *best* trucks in the world when made!

Mack Trucks, Inc., New York, N. Y. Factories at Allentown, Pa.; New Brunswick, N. J.; Plainfield, N. J.; Factory branches and dealers in all principal cities for service and parts.

IF YOU'VE GOT A MACK, YOU'RE LUCKY... IF YOU PLAN TO GET ONE, YOU'RE WISE!

SEPTEMBER, 1942

Use postage-paid card inserted in this issue for free information on advertised products

Mack
TRUCKS
FOR EVERY PURPOSE
ONE TON TO FORTY-FIVE TONS
BUY U. S. WAR BONDS



... for Greater Safety to Merchandise

Use HANSEN LOCKS with LOCKING CYLINDER

No. 60-L EXTENSION LOCK (right - hand), with Locking Cylinder and two keys. Made in one piece with inside handle.



HERE'S a Hansen Lock—plus! Hansen dependability plus the added safety of a Locking Cylinder, which is pick-proof, tamper-proof—against loss or theft of merchandise in transit, stored or left in truck. Equip your truck or fleet bodies with Hansen Locks with Locking Cylinders—for complete protection to deliveries.

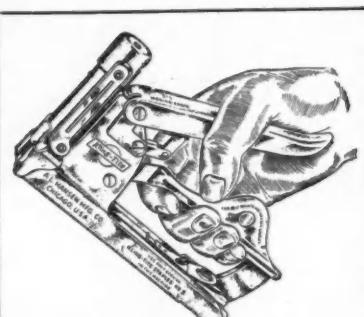
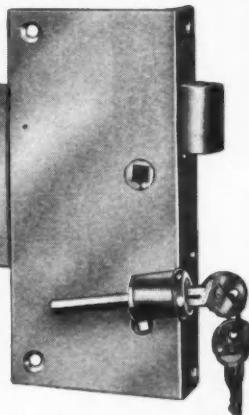
Locking devices have been added to many of the standard Hansen Locks, including Locking Cylinders, Locking Handles and special types of Locking Mechanism. It costs little extra to lock-equip your Locks—and it's much safer!

Hansen Locks are noted for their rugged strength, simplicity and serviceability. The Hansen Line includes Refrigerator, Slammering, Slam-and-Take-up, Cab, Extension and Sliding Door Locks — also, Regulators, Hinges, Handles, etc.—all built for service!

On your next order for bodies—one or a fleet—be sure to specify HANSEN—the Hardware for Hard Wear!

No. 124 SLAM-and-TAKE-UP LOCK with Locking Cylinder and two keys. Can be supplied with either Flush or "T" Handle.

SEND FOR CATALOG—if you don't already have one. It shows the complete line of Hansen Hardware and One-Hand Tackers.



HANSEN ONE-HAND TACKERS

Used in automotive and airplane industries for various tacking and fastening jobs—insulation, seat covers, airplane construction, etc. For driving Tackpoints up to $\frac{1}{2}$ " length. Powerful. Portable. One-hand operation.

Write for Descriptive Folder

A. L. HANSEN MFG. CO.
5047 Ravenswood Ave., CHICAGO, ILL.

WHITE FIRST TRUCK MAKER TO GET JOINT "E"

As the result of its outstanding production record on scout cars, half-tracs, tank destroyers, prime movers, and cargo trucks for the U. S. mechanized forces, The White Motor Co. has received the Army-Navy "E," marking it as the first truck manufacturer in the country to get this coveted joint award.

In presenting the Army-Navy "E," Under-Secretary of War Patterson said: "You of The White Motor Co. have distinguished yourselves by magnificent service. An Army without wheels in modern warfare is as helpless as an Army without guns. You are the men and women who put the Army on wheels. White vehicles have been battle tested on a dozen military fronts and this is the report that comes back: 'They stand the gaff.' They are carrying the attack to the foe. They are giving the Army that mobility without which armies cannot win battles."

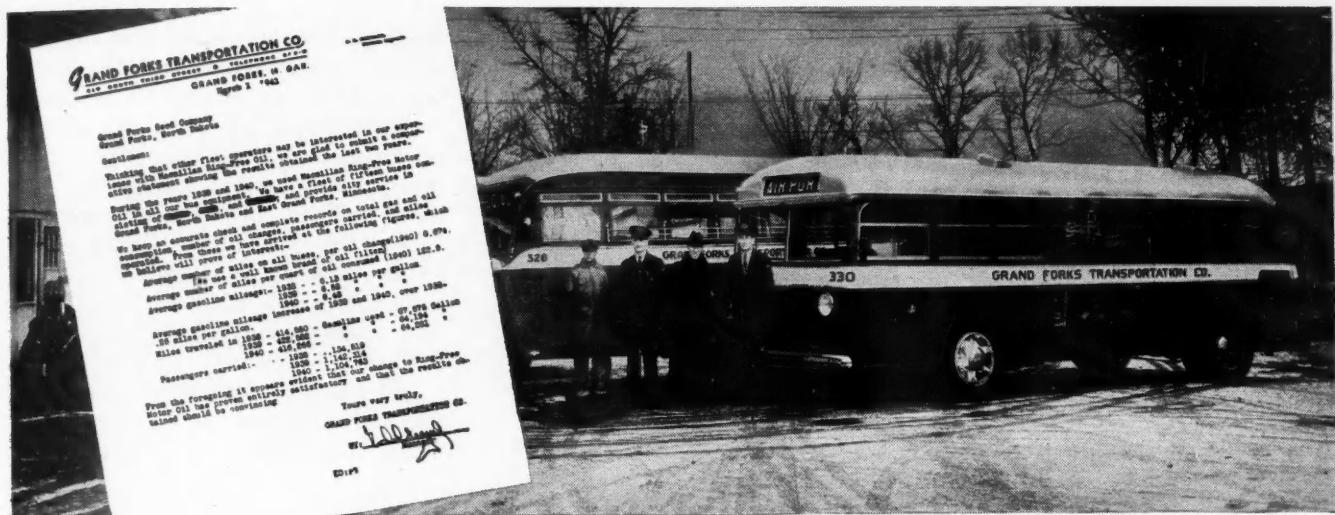
In accepting the award, President Robert F. Black said that he was voicing the appreciation of the members of the White organization.

"We are in no way complacent," said Mr. Black, "nor can we afford to be. We do not look upon this award as a signal to start boasting, or as giving us any right to 'pat ourselves on the back.' This award represents simply the palm and laurel that constitute public acknowledgment of a job well started—the first lap, well run, in a long race."

AUTOCAR SECOND TO GET JOINT "E"

Robert P. Patterson, under-secretary of war, announced in Washington that the Army and Navy have conferred on the Autocar Co. of Ardmore their "E" pennant "for high achievement in the production of war equipment." Autocar is one of the first two companies in this entire seven-state Army Ordnance district to receive this coveted award, and it means that, in addition to the banner which can be displayed at the Autocar plant, every Autocar employee will receive from the Army and Navy a silver lapel button carrying the insignia of the award.

Mr. Patterson also sent a personal letter of announcement and of commendation to Robert P. Page, the Autocar president.



FLEET SAVES 6½% ON GAS!

AS more and more companies keep accurate records of their fleet operations, more and more customers are created for Macmillan RING-FREE Motor Oil.

For instance, the Grand Forks Transportation Co. operating fifteen buses between Grand Forks, North Dakota and East Grand Forks, Minnesota, started using RING-FREE in 1939.

Look at these figures for:

	1938 without RING-FREE	1940 with RING-FREE
Miles traveled . . .	414,580	416,266
Gallons of Gas used .	67,575	64,281

"From the foregoing it appears evident," writes general manager, E. O. Odegard, "that our change to RING-FREE Motor Oil has proven entirely satisfactory and that the results obtained should be convincing."

What RING-FREE has done for other fleet owners it can do for you. Write us.

MACMILLAN
PETROLEUM CORPORATION
50 West 50th Street, New York
624 South Michigan Ave., Chicago
530 West 6th Street, Los Angeles

**MACMILLAN
RING-FREE
MOTOR OIL**

Copyright 1942 by
Macmillan Petroleum Corporation

BALTIMORE STORES FORM TRUCK POOL

(CONTINUED FROM PAGE 47)

a number of the vehicles are stored. The manner in which the shop is set up and the extent of our repair operations will be discussed later.

As previously stated, our fleet consists of the package delivery vehicles of the three stores. These are mostly 1-ton vehicles. Inasmuch as our service is limited to handling packages,



This is the new warehouse that houses the pool

rugs and small bulk, each store kept its own bulk delivery trucks to be

operated by them independent of the pool. Stores kept their furniture and warehouse trucks, shuttle vehicles for transporting packages from the store to the Delivery of Baltimore's platform, passenger cars, upholstery vehicles and specialized delivery trucks such as the fuel oil trucks in the case of Hochschild, Kohn & Co. Altogether, Delivery of Baltimore took over approximately 112 vehicles.

These trucks were "sold" to Delivery of Baltimore and the transaction was accomplished by having the trucks appraised by appraisal specialists and then making an adjustment between the appraisal figure and book value of the trucks. All repair parts and accessories, tires and other equipment were taken over on the same basis. In every case where there was equipment and accessories that could be used on both the vehicles being turned over to the pool and on vehicles being retained by the store, such accessories went with the vehicles to the pool.

We figured the transfer of this equipment and parts as a cash transaction on our books, although it could be accomplished in several ways, depending on the bookkeeping set up.

Besides taking over the trucks, we also took over the repair shops of all three fleets. Like the trucks, the repair equipment was appraised and an adjustment made with the book value. This meant acquiring all usable repair equipment for the package fleet as well as for the other vehicles retained by the three stores. Consequently, we have undertaken to service the special vehicles not included in the pool. All such repairs are done at a predetermined labor rate, plus cost of materials and overhead. We also took over the mechanics of the three shops. Besides repairs, we wash and store some of the special trucks in our own garage at a fixed monthly charge.

Although we are still in an early stage of organization with changes and adjustments being made as problems arise, our maintenance program is rapidly taking shape. All vehicles are given a regular inspection once a month. This includes a complete check of all moving parts and a lubrication. Daily reports are made out by drivers whenever necessary. At this time of writing the shop has

(TURN TO PAGE 62, PLEASE)

KEEPING ENGINE OPERATING COSTS AT A MINIMUM

With the Model 1017 Weidenhoff Engine Analyzer, you can keep your fleet at a minimum operating costs. Only four connections and a 10-minute test determine the electrical and mechanical condition of an engine. Every feature of this instrument is based on sound and accepted engineering principles that have proven their superiority by exhaustive laboratory tests as well as by practical operation in the service field.

The model illustrated includes one of the most decided advantages of the unit—engineering the fact that individual units better and research if future units only that unit dealing with those tests need be replaced. Thus, the complete analyzer can be kept perpetually up-to-date at a reasonable cost to the owner.

The model illustrated includes an ammeter, voltmeter and rheostat unit for calibrating voltage and current of regulators. Another unit consists of a condenser and resistance tester. The center unit is the well-known and efficient Weidenhoff Coil Tester. Two other Weidenhoff units consist of a contact dwell indicator useful in determining distributor point settings and distributor a vacuum, compression and other pump tester. In the panel is the Weidenhoff Electronic Tachometer, a most useful instrument for the fleet operator. All necessary adapters, leads, etc., are furnished with the analyzer.

Send today for full particulars and catalog showing all of the Weidenhoff line of equipment which has proven so successful in keeping commercial vehicles at maximum performance with low operating cost.

JOSEPH WEIDENHOFF, INC., 4340-58 W. Roosevelt Road, CHICAGO, ILL.



-and a
HALF DONE
overhaul won't
stop
OIL PUMPING

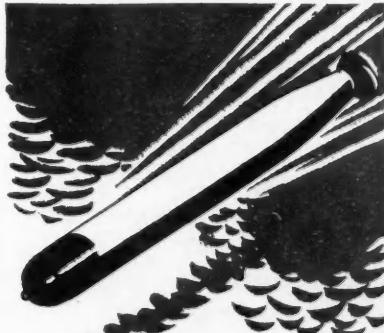
REPLACE WORN ENGINE BEARINGS!

For maximum, trouble-free mileage from every gallon of gas and every quart of oil, the engine must be kept in tip-top shape—and that just can't be done with a **HALF DONE** overhaul.

Don't stop at a "piston ring" job, when smoky exhaust tells you an engine is pumping oil. Do the **WHOLE** job—replace those worn bearings which are a major cause of oil pumping. If worn bearings are not replaced, even with new rings they continue to flood the cylinders with excess oil, which burns to carbon, coating the best of rings, pistons, spark plugs and valves—and oil waste continues.

When an engine is opened up for service, always check the bearings, if worn, replace in sets with Federal-Mogul Oil-Control Bearings to restore power, pep and economy *for the long run!*

The Federal-Mogul Bearing Oil Leak Detector provides a quick, scientifically accurate means of checking all bearings and internal oil lines simply by dropping the oil pan—and an ideal check-up after every overhaul is completed and before the engine leaves the shop.



FOR VICTORY

Federal-Mogul's increased factory production is working "all out" producing vital precision parts for torpedoes, bearings and precision parts for planes, tanks, guns, boats—and millions of bearings to service the cars carrying war workers and materials to their jobs. We "keep 'em rolling"!

FEDERAL-MOGUL CORPORATION • DETROIT, MICHIGAN
WORN BEARINGS CAUSE OIL PUMPING



BALTIMORE STORES FORM TRUCK POOL

(CONTINUED FROM PAGE 60)

not been completely organized and changes are anticipated before we settle down to a routinized form of operation. Incidentally, all trucks were taken over in good running order and no immediate problem of unexpected maintenance arose with their acquisition. All trucks in service have been painted in the new



The recreation room fitted out for employees

colors of the delivery company.
In addition to absorbing drivers

and mechanics, the new organization took over the entire delivery personnel which includes the routers and sorters of the three stores. The most liberal part of the personnel policy of each store was acquired by the new firm so that in composite the entire personnel policy exceeds everything enjoyed by the employees in their previous positions. Almost every employee received a salary increase.

Rather than use a graduated scale for delivery charges, it was decided to divide the total number of packages delivered each month into the monthly cost of operation to determine the cost of delivery per package. Each store is charged on the basis of the number of packages delivered for it during the month. Naturally this figure may vary slightly from one month to another, although we hope to stabilize our operating costs so that a fairly constant rate per package will prevail.

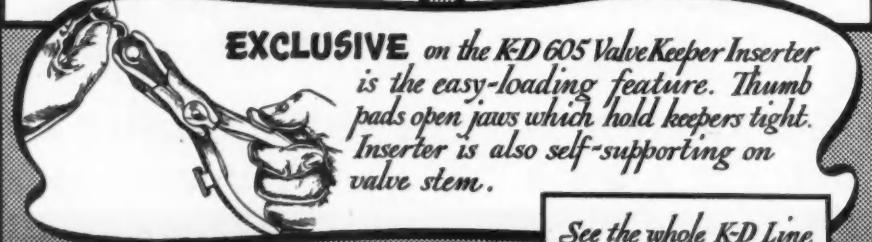
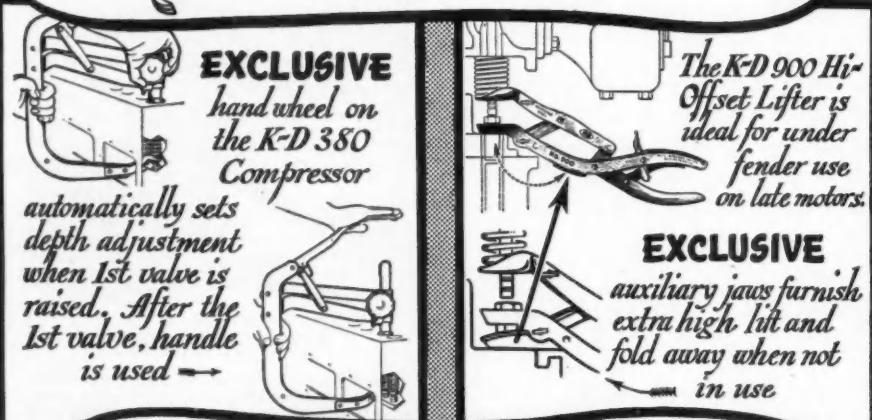
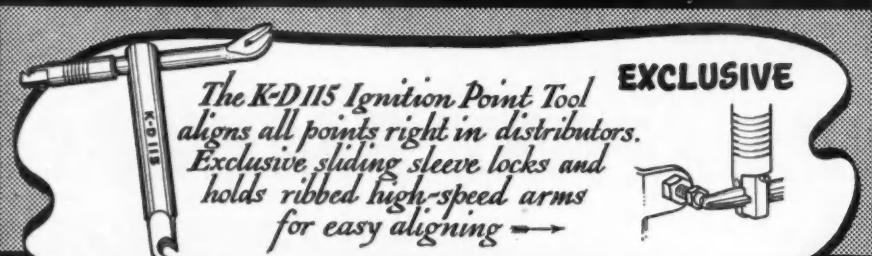
The package delivery functions as follows: Packages are brought to the Delivery of Baltimore sorting platform in a shuttle or transfer truck owned by the individual stores but driven by our drivers. The stores themselves wrap, stamp and load their package hampers. The driver brings the truck to our terminal and unloads the packages onto a slide which leads down to the routers who sort them and relegate each package to its proper bin by means of the three belts previously described.

At the present time we are operating from 36 to 45 routes, depending on the amount of activity. The routes were determined by adopting the unit system of one of the stores which we deemed most suitable to our operation, and by making a few necessary changes to add additional units because of increased loads in each area. No deliveries are made beyond the metropolitan area of Baltimore, outside of which the stores themselves parcel post their own packages. The average truck route is about 20 miles.

Package delivery records are maintained by the delivery company. Packages are stamped with a Bates serial number and the entire series of numbers are turned over to us by each store the morning following the previous day's deliveries. A stub from the sales check accompanies each package which we remove for our records. The stubs are pooled from the three stores and are weighed for

(TURN TO PAGE 64, PLEASE)

It's the EXCLUSIVE features that put the speed in K-D Tools!



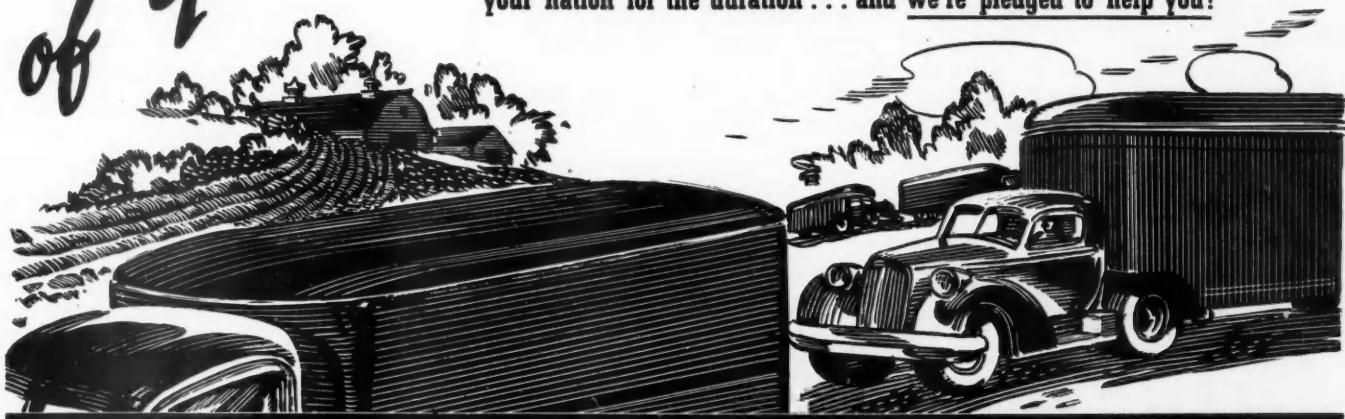
See the whole K-D Line
at your Jobbers' today

K-D MFG. CO.

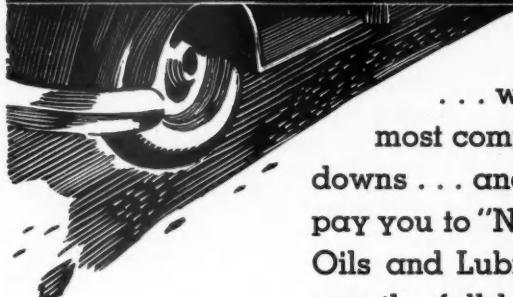
Lancaster, Pa. and Hamilton, Ont.

*Ahead
of you . . .* the Responsibility of sustained
uninterrupted service

Of course, you've joined the U. S. Truck Conservation Corps.
You're pledged to keep 'em rolling. Your fleet must serve you and
your nation for the duration . . . and we're pledged to help you!



NATIONAL-IZE YOUR FLEET!



★ To get every mile of service out of your trucks . . . with the greatest economy of operation, with the most complete freedom from interruptions, time losses, breakdowns . . . and with the definite assurance of longer life, it will pay you to "National-ize" your fleet with National En-ar-co Motor Oils and Lubricants. Our engineers are at your service to give you the full benefit of National's 60 years of experience. We are cooperating 100% with the Conservation program of the O. D. T.

National SAVIT Service will keep 'em rolling!

★ The new revolutionary National SAVIT Service makes motors last longer . . . retards the accumulation of gum and sludge . . . provides extra protection to bearing surfaces . . . insures open oil passages . . . eliminates catalytic action and corrosion . . . frees valve and ring action . . . restores power and smoothness . . . boosts compression as much as 25% . . . saves in gas and oil consumption . . . gives greater protection and maximum operating efficiency. Write or wire today for a demonstration on your own equipment with no obligation on your part.



NATIONAL EN-AR-CO MOTOR OILS and LUBRICANTS
NATIONAL WHITE ROSE GASOLINE
THE NATIONAL REFINING COMPANY • CLEVELAND, OHIO

BALTIMORE STORES FORM TRUCK POOL

(CONTINUED FROM PAGE 62)

a count to determine the driver's load. The weighing method is pretty accurate and loads based on it are seldom out more than a few packages.

This system eliminates the necessity of counting packages. Stores are charged according to the Bates serial number count and we cross-check this count by our weighing system. Theo-

retically, our count by weight should correspond to the count by the Bates recording system used by the stores, but actually there is a slight discrepancy probably accounted for by variations in the weight and size of paper on which the stubs are printed. Nevertheless, we feel that the time and labor saved by weighing stubs more than offsets what little would be gained in a package-by-package count.

As many as three attempts are made to deliver charge and paid

packages, although the store is only charged once for the delivery. COD packages go out twice. COD's are collected by our drivers and the money turned in to our cashiers. The stores then bill us for the total COD amount. The cashiers check off the COD's collected against the Bates serial numbers given to us by each store to determine if we collected for a COD for which a store bills us. Returned items are listed on a return sheet and the store then credits us for the amount of the returns.

As a form of convenience in handling adjustments, we maintain direct wires from our "trace" office to the bureau of adjustment in each of the three stores. We maintain all records because these are filed by routes to simplify tracing. It's not practical for the stores to keep the record because they wouldn't know on what route we might place a package.

A typical daily transaction report from one store might show the following record of deliveries: Number of Bates stamp machines used—5; number of charge and cash packages—2539; number of COD's—547; number of calls for pick-ups—135; total calls or transactions—3221. At the rate at which we are now going, Delivery of Baltimore may show a delivery record of about 3,000,000 packages in its first year of operation.

Perhaps one of the major facts of interest is that our total delivery mileage and use of equipment is considerably below the aggregate of the three stores before their equipment and deliveries were pooled.

END

(Please resume your reading on P. 48)

Pennsylvania Rubber Expands Atlanta Branch Office

Expanding activities of the Atlanta, Ga., branch office of Pennsylvania Rubber Co., as a result of introduction of camelback, repair materials, batteries and other accessory items into the company's line, has necessitated a substantial increase in office and warehouse depot facilities throughout the territory. The Atlanta branch headquarters has moved into larger offices at 58 North Ave., N. E. A new warehouse depot has been established at Memphis, Tenn., to serve western Tennessee, Mississippi and part of Arkansas. Additional service warehouses under the Atlanta district office are located at Charlotte, N. C., Birmingham, Ala., New Orleans, La., and Miami, Fla.



Today, your Uncle Sam is "big boss" on the biggest service job America has ever dreamed! For in modern war, manpower alone is helpless . . . helpless without horsepower . . . horsepower for victorious land power, air power, sea power.

And man, it takes tools to handle this service operation! Yes, tools have been drafted . . . the best that can be built . . . for the lives of American boys are dependent on keeping that horsepower rolling swiftly and efficiently.

So, if we fall down on delivering some of the tools you order, you'll know there's a mighty good reason why. And you can be sure that we are doing our level best to fill your essential requirements, for we know that your job is important, too!

Snap-on SERVICE TOOLS

The Choice of Better Mechanics

SNAP-ON TOOLS CORPORATION 8026-1 28th Ave., KENOSHA, WISCONSIN

CCJ QUIZ

by ROBERT F. BAHL

(Correct answers on page 88)

Grade yourself by taking a credit of 10 points for each correct answer. See if you can hit the passing mark of 70 or, better still, aim for "teacher's pet" at 100.

1

To help conserve the nation's existing supply of motor trucks, the Office of Defense Transportation has published a handbook for wartime maintenance and operation of trucks. Title of this book is—
a. "Singing Wheels."
b. "America's Trucks—Keep 'em Rolling."
c. "Your Truck and Mine."

2

Signs of the times! New Army policy now prescribes—

- a. Use of at least 50 per cent synthetic rubber in all Army truck tires.
- b. Wood bodies instead of steel on all cargo body trucks of 1½-ton size and larger.
- c. Substitution of less critical materials for all aluminum and copper in Army trucks.

3

See if you can pick this one out of your alphabet soup. The letters ACWP stand for—

- a. Axis Can't Win in Production.
- b. Administration for Controlling Waste Products.
- c. Automotive Council for War Production.

4

Bombers by truck! Ford-built sub-assemblies for Consolidated B-24 four-motor bombers are being transported to the assembly plant by tractor-trailer instead of by railroad freight cars because—

- a. the shippable sections are too big for standard freight cars.
- b. the distance is so short that it's more economical to haul by trailer.
- c. there are no rail connections between the two points.

5

If you noticed the circle and triangle insignia of the Civilian Defense on the side of a truck and this insignia included an illustration of a pickaxe, you should know then that the truck was registered for—

- a. Road repair.
- b. Demolition and clearance.
- c. Decontamination.

6

The automotive industry is doing its bit to keep 'em flying. Of the aircraft engines being produced in this country today, former truck and auto manufacturers are building—

- a. three out of four.
- b. one out of two.
- c. one out of four.
- d. one out of ten.

7

The tremendous strides made by the auto industry in the war effort brings up the question of when the "stop" order on production of automobiles and light trucks went into effect. The exact date was—

- a. December 7.
- b. December 8.
- c. January 1.
- d. February 1.

8

Color-blind readers need not answer this one. The president of the White Motor Co. is—

- a. Mr. White.
- b. Mr. Green.
- c. Mr. Brown.
- d. Mr. Black.

9

The almost overnight conversion of Detroit's auto industry to war work has resulted in:

- a. greater employment than ever before.
- b. only a slight decline in total workers employed.
- c. a 40 per cent drop in the industry's payroll.

10

How many \$25 war bonds are needed to buy a quarter-ton reconnaissance truck... "jeep" to you?

- a. 24.
- b. 48.
- c. 72.
- d. 96.



Approved by
Underwriters' Laboratories Inc.

AVOID UNNECESSARY DUMPING AT STATE LINES WITH

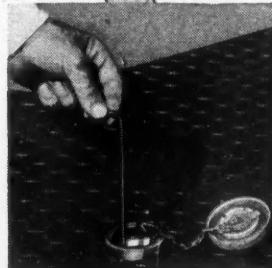
Safety Fuel Tanks

• Your drivers will know exactly how much fuel they have, and can prove it to state inspectors when your trucks are equipped with M.H.S. Safety Fuel Tanks—they meet every requirement for safe, efficient, trouble-free operation. In addition to the measuring sticks (described at the right) these tanks are equipped with a safety pressure valve that provides extra venting capacity, preventing explosions—thief-proof pockets that prevent fuel thieving during rest stops—easily accessible filter and sediment traps—and many other advantages.

M.H.S. Safety Fuel Tanks are of rigid all-welded construction, and are trussed internally to withstand severe treatment without damage.

Safety and protection from fire have never been as important as now—and remember, after a fire starts, it's too late then to equip the truck with a Safety Fuel Tank.

75-85-105 AND 125 GAL. CAPACITIES
A fully descriptive folder is yours for the asking



These Measuring Sticks provided under the safety pressure caps in each filler spout facilitate easy sticking by police in states that have minimum entering laws—avoiding unnecessary dumping.

MHS

Safety Fuel Tanks
DESIGNED AND MANUFACTURED BY
MECHANICAL HANDLING SYSTEMS, INC.
4650 NANCY AVE. • DETROIT, MICH.
WORLD'S LARGEST MANUFACTURER OF AUTOMOBILE TRANSPORT TRAILERS



To 350 Albany, N. Y., truck drivers goes the honor of being the first in the nation to enroll in the U. S. Truck Conservation Corps. The ceremony took place in the Mack branch and was one of a series conducted by Albert G. Crockett, Mack transportation engineer. The pledge button is for drivers and mechanics

REGARDING THE JOINT INFORMATION OFFICES

(CONTINUED FROM PAGE 48)

23. Q. With whom must the objection be filed?

A. With the field office manager. Written objections will be forwarded with the applications to the ODT at Washington.

24. Q. Who will make the final decision on an application?

A. The Director of the Motor Transport Division.

25. Q. How are the offices to be financed?

A. By the carriers. The order states that the cost of establishing and maintaining a Joint Information Office "may be apportioned, on an equitable basis, among the carriers participating in its establishment or utilizing its services, which basis of apportionment may be changed by direction of the Office of Defense Transportation."

26. Q. May carriers be charged by Joint Information Offices for services rendered?

A. The governing board of an office may fix "non-discriminatory charges," subject to change by the ODT, for services rendered to individual carriers.

27. Q. Has any provision been made to keep such charges uniform?

A. Charges currently in effect must be posted in a Joint Information Office at all times.

28. Q. Must the charges and apportionment of costs be fixed prior to the opening of a Joint Information Office?

A. Carriers must outline such plans in making application for permission to establish an office.

29. Q. Are managers of Joint Information Offices required to report to ODT?

A. Managers must maintain records of all information filed with them and must make regular reports to the ODT. All records, files and correspondence also must be made available to accredited representatives of the ODT at any time.

30. Q. If it develops that a truck which has been registered with a Joint Information Office is no longer available for the purpose for which it was registered, what must the operator do?

A. Report to the manager of the Joint Information Office, so that the registration can be cancelled.

31. Q. In the event a carrier obtains a load for his truck or leases his truck as a result of registering with a Joint In-

formation Office, how are the division of revenues and rental charges determined?

A. Unless agreed upon by the interested carriers or prescribed by the Interstate Commerce Commission or a State regulatory body, divisions of revenue for shipments interchanged and charges for rental of equipment will be as determined by the ODT, upon appropriate application.

32. Q. Has a Joint Information Office any voice in determining transportation charges or rental rates?

A. Order No. 13 states that the authority of a Joint Information Office "shall not include the right to fix compensation for the interchange of traffic or for the transportation of traffic interchanged or, the rental price of vehicle leased, or to designate any particular carriers to receive any given traffic or to lease, rent, or exchange any given vehicle."

33. Q. Will Joint Information Offices make any distinction between the various types of carriers in receiving or obtaining information?

A. The information will be broken down as follows: Information as to empty or partially loaded trucks will be received from all types of carriers, common, contract and private. Information as to property awaiting shipment will be received from common carriers but not from contract or private carriers.

34. Q. Will the Joint Information Offices make the same distinction in furnishing information to the various types of carriers?

A. Yes. Information as to property ready for shipment will be furnished only to common carriers. Information as to available equipment will be furnished to all types of carriers.

35. Q. Must all types of carriers be represented on the governing board of a Joint Information Office?

A. The order states: "In selecting the governing committee or board representation shall be allowed to the various types of carriers establishing or utilizing the services of the Office."

36. Q. Under this provision would a governing board representing only one type of carrier be permitted?

A. Only if a study of traffic conditions indicated clearly that other types of carriers would have no cause to use its services.

37. Q. Under what circumstances must a truck operator register with a Joint Information Office?

A. A common carrier must register every partially-loaded or empty truck and obtain a clearance statement before continuing a trip. Contract and private carriers must register all empty trucks but need not register partially-loaded trucks, since only empty trucks can be rented or leased by other carriers.

38. Q. Under what conditions will a clearance statement be issued?

A. A clearance statement will be issued: To common carriers when (1) a truck is carrying a less-than-capacity load and there is no information on file showing that property is available for shipment to the truck's destination or to any point intermediate to or beyond such destination or when (2) the carrier has accepted for transportation and loaded, up to the capacity of the truck, all property available for transportation to such points.

To all carriers when a motor truck is empty and there is no information on file with the Joint Information Office indicating that another carrier desires to use the truck for transportation of property to the destination of the truck or to an intermediate point.

39. Q. What data will the clearance statement contain?

A. It will describe the truck or trucks involved, will state the point of destination and the date and hour the statement is issued.

40. Q. Must a carrier register with Joint Information Offices in person?

A. No. This may be done by phone.

41. Q. Can the movement of a truck be authorized by telephone?

A. Yes.

42. Q. What about the clearance statement?

A. This is forwarded to the carrier by the Joint Information Office.

43. Q. Must a clearance statement be carried on the truck?

A. No. It must be kept on file by the carrier.

44. Q. When do the new regulations go into effect?

A. Common carriers engaged in over-the-road service must start registering with Joint Information Offices as soon as they open. Contract and private carriers engaged in such service must start checking with such offices after Sept. 1.

45. Q. What is a carrier required to do in the event he requires the services of a Joint Information Office in a particular city and none has been set up?

A. A common carrier must make appropriate inquiries of other carriers in an effort to secure a load or rent or lease his truck, and a contract or private carrier must make similar inquiries in an effort to lease or rent an empty truck.

46. Q. Will Joint Information Offices be given additional duties as the program progresses?

A. It is expected that additional functions will be added to those thus far prescribed, such as checking on cross movement of empty trucks, obtaining data on arrival of empty trucks at various points and other trucking operations.

END

(Please resume your reading on P. 49)

IT'S A SNAP



doing a good job with

ACE fleet operators everywhere say that it's easy to do a good re-ring job—if you use Sealed Power Engineered Piston Ring Sets. These sets—designed by the men who build the rings for leading new cars, trucks, tractors, and airplanes—really fit the engine. They're made for each make and model of car and truck—tailor-made! Save gas, save oil, save engine wear with Sealed Power Piston Rings. You can't buy finer piston rings—at any price.



SEALED POWER CORPORATION
Muskegon, Michigan • In Canada: Windsor, Ont.
*Piston Rings, Pistons, Pins, Valves, Sleeves, Expanders,
Bolts, Bushings, Water Pumps, Tie Rods, Front End Parts*



**FOR ALL POPULAR MAKES
AND MODELS OF CARS**

REGARDING GENERAL CONSERVATION ORDERS

(CONTINUED FROM PAGE 49)

17. Q. What about a carrier who has reduced the mileage of an operating unit by disposing of an operation within the unit during the preceding 12 months?

A. The mileage of the operation disposed of is deducted from the total mileage of the operating unit. The remaining mileage must be reduced by 25 per cent.

18. Q. What trucks are not covered by mileage restrictions?

A. As pointed out above, Order No. 3, governing over-the-road operations of common carriers, contains no mileage reduction provision. Tank trucks, farmer-operated trucks, military trucks, and trucks operated within industrial plants, also are not affected, since they are exempt from Order 17.

19. Q. Are any other trucks specifically exempt from the mileage restriction?

A. Yes. Trucks occupied by mounted machinery, trucks engaged exclusively in the transportation of explosives, trucks hauling repair or maintenance, men and their supplies and equipment, sanitation trucks, trucks used in the maintenance or repair of public utilities, trucks operated under the direction of the armed forces, trucks operated in emergencies for the protection of life and health, and trucks handling telegraph, radio and cable communications, and the United States mails.

20. Q. Are such trucks exempt from any other restrictions?

A. Yes. They are also exempt from the capacity-load provision and from restrictions on the number of deliveries, including special deliveries. Trucks occupied by mounted machinery (special equipment) also are exempt from the maximum load provision.

21. Q. What is the capacity-load provision and to what trucks does it apply?

A. Beginning Aug. 1, trucks operated in over-the-road service, whether by common, contract or private carrier, must be loaded to capacity on a "considerable portion" of the outgoing or incoming trip.

22. Q. Are the carriers under any further loading requirements?

A. Yes. All over-the-road carriers, under Orders 3 and 17, are required to use "due diligence" to maintain full loads on their trucks at all times while en route.

23. Q. Are there any specific requirements, other than the exercise of due diligence?

A. Common carriers must register with Joint Information Offices, as established in accordance with General Order ODT No. 13, in an effort to obtain full loads. If a common carrier cannot obtain a full load for a scheduled trip he must register his truck or trucks and offer to rent or lease such equipment to other carriers able to obtain property for shipment. Private and contract carriers must register their trucks for rent or lease before such trucks may depart empty from any point.

24. Q. In the event no Joint Information Office has been established in the vicinity where a carrier is seeking a load

for a truck, what must he do?

A. He is required to make appropriate inquiries of other carriers on his own initiative.

25. Q. Will there be Joint Information Offices in all cities?

A. It is expected that such offices will be set up in all principal traffic centers in the United States.

26. Q. When must carriers start checking with Joint Information Offices or with other carriers?

A. This provision becomes effective for common carriers on Aug. 1, and for contract and private carriers on Sept. 1.

27. Q. Are any carriers, except those covered by exemptions already mentioned, to be relieved from this provision?

A. Trucks operated by contract and private carriers in the transportation of farm commodities from the farm, or supplies to the farm, will be relieved from this requirement until Nov. 1. They will also be exempt from the 25 per cent mileage reduction and the limitation on number of deliveries for the same period.

28. Q. Are these trucks exempted by the order?

A. This exemption is contained in General Permit ODT No. 17-1.

29. Q. Are additional exemptions planned?

A. A number of additional general permits covering special operations will be issued.

30. Q. May contract and private carriers take additional steps to fulfill the objectives of Order 17, other than registering their trucks for rent or lease with Joint Information Offices or making inquiries of other carriers?

A. Such carriers may take joint action under certain conditions. Where such joint action involves local delivery service, the carriers must comply with the joint statement issued by the Office of Defense Transportation and the Department of Justice under date of March 12, 1942. The order further reads:

"In accordance with such statement, proposed plans for pooling or cooperative deliveries, for curtailing services, or entering into other arrangements involving joint action may, if desired, be submitted to this Office for approval. In order that this Office may be informed concerning plans which have been or are hereafter placed in operation without such prior submission for consideration and approval, a copy of each plan shall be filed with this Office."

With respect to joint action by contract and private carriers involving over-the-road service, the order reads:

"Whenever joint action between two or more motor carriers is contemplated with respect to over-the-road service in order to accomplish any of the purposes of this subpart, such carriers may formulate and submit to this Office for consideration a plan or plans designed to accomplish such purposes. No action shall be taken in furtherance of such plan or plans except in compliance with

a specific order or orders issued by this Office."

31. Q. What requirements are common to all trucks affected by the orders?

A. All carriers are required to eliminate wasteful operations and to curtail schedules sufficiently to comply with the orders; they are required to limit speeds to 40 miles an hour, to conserve and properly maintain tires and equipment, and to rent or lease their trucks wherever practicable or necessary to carry out the objectives of the orders.

32. Q. Is the burden placed entirely on the carriers for complying with restrictions on number of deliveries?

A. No. Order 17 requires that "no person shall cause to be made by motor truck, and no motor carrier when operating a motor truck shall make," any delivery not in accordance with the terms of the orders. Order 6 includes a similar provision. This makes the person who demands or requests an unauthorized delivery equally responsible with the carrier should such a delivery be made.

33. Q. Is the load-carrying ability of the tires the only weight limitation which the carrier must observe?

A. The orders provide that no carrier shall be required to load a truck to the point where the gross weight will exceed the current gross weight limitations of any State in which the truck is operated. Neither is a carrier required to violate maximum load limits of any bridge or other structure as set by State or local highway authorities.

34. Q. Has the ODT set any standards for maximum loads?

A. With the exception of tank trucks, farmer-operated trucks, military trucks, and trucks operated within industrial plants, no truck may be loaded to a point where the gross weight will exceed the load-carrying ability of the tires by more than 20 per cent.

35. Q. What are the conditions under which carriers affected by Order 17 may make more than one delivery?

A. No truck may make more than one delivery from the same point of origin to the same point of destination except under the following circumstances:

1. If the property to be delivered is more than a truck can carry at one time, the truck may make as many deliveries as necessary to complete the operation.

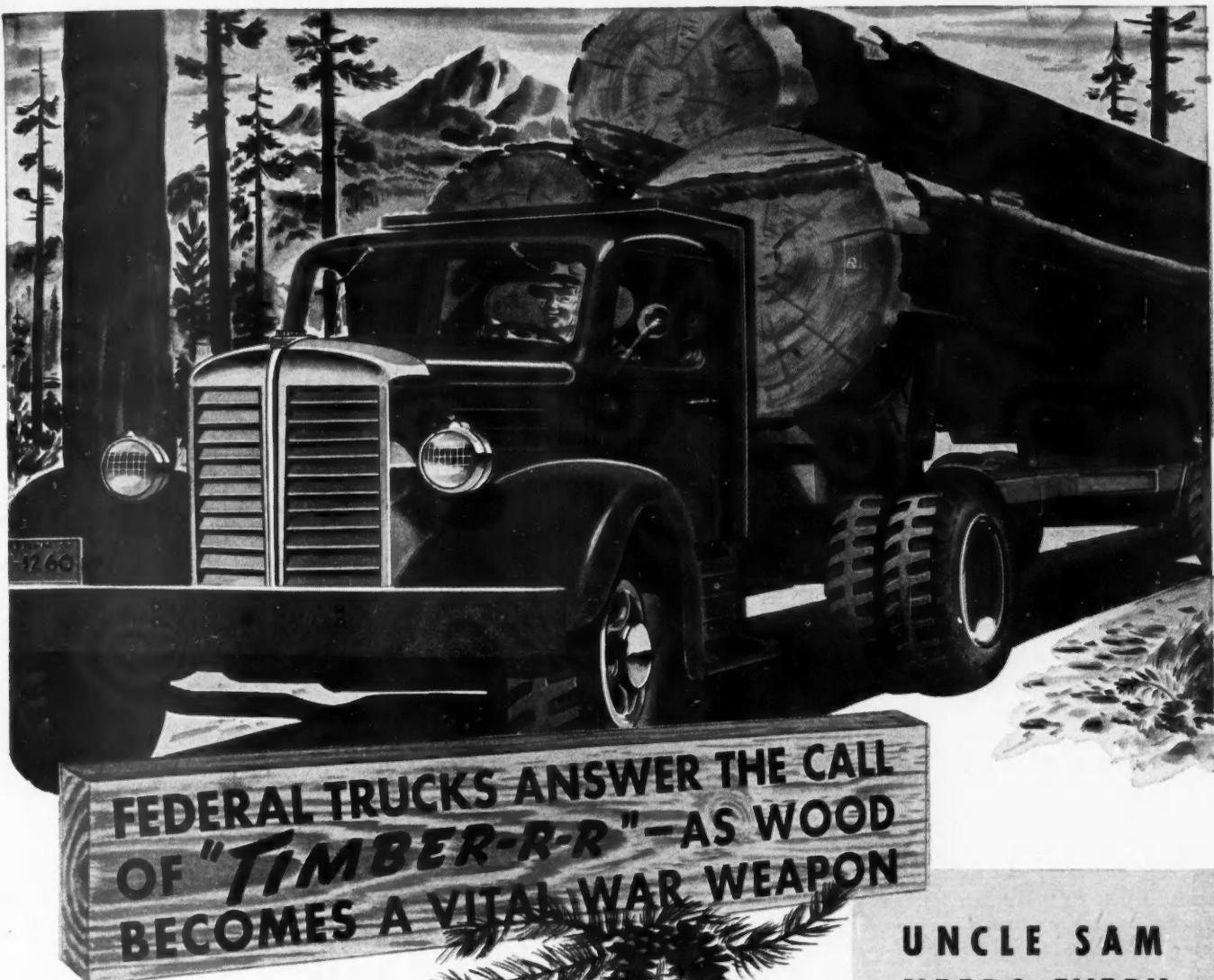
2. A carrier operating different types of specially-equipped trucks, such as ice and coal trucks, may make a second delivery to the same point on the same day, if the commodity to be delivered on the second trip requires the use of a different type of specially-equipped truck than was used in making the first delivery.

3. A truck which has delivered a load to any point may call later in the same day for the purpose of picking up empty containers, if this does not add to the mileage of the truck. Such a call is defined by the order as a "delivery".

4. An extra delivery may be made on a Friday before a national holiday falling on a Saturday, or on a Saturday before a national holiday falling on a Monday, provided the carrier makes no deliveries on those holidays.

END

(Please resume your reading on P. 50)



FEDERAL TRUCKS ANSWER THE CALL OF "TIMBER-R-R"—AS WOOD BECOMES A VITAL WAR WEAPON

FROM cartridge cases to cargo planes, the use of wood as a weapon of war is growing tremendously in importance. Wood—millions upon millions of feet of it—is now going into the construction of war worker homes, army barracks, war plants, transport ships, troop landing barges, fast torpedo boats, sub-chasers, patrol boats. Boxes, crates and containers—thousands of them—for Army and Navy Ordnance materiel alone will take an estimated billion and a half feet of lumber. Wood is vital to Victory—now serves as a worthy substitute for steel and other strategic metal shortages.

So axes are ringing and saws are singing with growing urgency in the timber stands of the Northwest and in the Southland—wherever logs can be "toted"—to serve our War needs. And to make sure that it won't be "too little and too late," big, husky, four and six-wheel Federal Trucks are in there fighting—under the most grueling kind of punishment trucks were ever built to take—carrying huge loads of massive logs over forest floors, often without benefit of graded roads or even trails.

Federal *balanced truck design* is maintaining a reputation for husky dependability and hardboiled performance among lumbermen who pride themselves on never making an excuse—or taking one! Again we repeat: "Toss the Tough Jobs to Federal!"

FEDERAL MOTOR TRUCK COMPANY, DETROIT, MICHIGAN

FEDERAL TRUCKS

Since 1910 . . . Known in Every Country—Sold on Every Continent

UNCLE SAM
NEEDS EVERY
TRUCK OWNER'S
PLEDGE TO

"Keep 'em Rolling!"

Pledged
**U.S. TRUCK
CONSERVATION CORPS**

• America's trucks—YOUR TRUCKS—must keep working for Victory! Frequent and thorough check-ups and maintenance will help keep trucks on the job—reduce operating costs. Go to any Federal dealer and sign Uncle Sam's pledge to Keep 'em Rolling. Make it All Out for Victory—Not Time Out for Repairs!

METALLIZING FACTS & FIGURES

(CONTINUED FROM PAGE 36)

keying and dovetailing be as deeply cut as necessary to withstand the pressures involved.

Both of these methods of preparation are commonly used and are satisfactory, although grit blasting is recommended if sufficient quantities of material warrant the additional expenditures for sand-blasting equipment and grit. Compressed air to the sand blaster will also be required. Adequate sand blasting equipment costs in the neighborhood of \$350.00, while the grit, which can be cleaned and used over until its cutting edges become dulled, may be purchased at the rate of approximately \$85.00 per ton.

Theoretically, 25 pounds of steel grit are required per square foot of surface blasted. In Fig. 1, the air-flow in cubic feet per minute at various air pressures, and the approximate delivery per hour of grit through $\frac{1}{4}$ -in. and $\frac{3}{8}$ -in. grit blasting nozzles, are given.

In grit blasting automotive parts, the air pressure should not be less than 80 lbs. unless there is danger of warping or overcutting soft base materials.

Wire size, and the type gas and gas pressure used, are factors to be taken into consideration in analyzing spraying costs. Generally speaking, the larger the wire used, the greater the spraying speed and the lower the cost. Exceptions to this rule are found in the case of the stiffer wires, such as nickle steel, high carbon steel, and stainless steel. Stiff wire may slow down under load and in spraying small pieces, where the edge loss may be excessive, due to the greater cone of spray in the larger size wires.

Where they are both available, certain facts regarding the two gases most commonly used for metal coating should be known before a choice is made. Although acetylene costs more per cubic foot than propane and spray guns use a greater volume of acetylene per pound of metal sprayed than of propane, they

FIG. 1

NOZZLE DIAMETER IN INCHES	AIR PRESSURE AT GAUGE IN POUNDS PER SQUARE INCH			RECOMMENDED HOSE SIZE IN INCHES	APPROXIMATE FLOW PER HOUR IN POUNDS	
	80 P.S.I.	90 P.S.I.	100 P.S.I.		SAND	GRIT
$\frac{1}{4}$ Inch	85 Cu.Ft. P.M.	94 Cu.Ft. P.M.	103 Cu.Ft. P.M.	1 or $\frac{1}{4}$	900	2250
$\frac{3}{8}$ Inch	191 " "	211 " "	232 " "	$\frac{1}{4}$ - $\frac{1}{2}$ or $\frac{1}{2}$	1700	4250

Fig. 1 gives the air-flow at various pressures and the approximate delivery per hour of blasting grit

FIG. 2

METAL	WIRE SIZE B & S GAGE	CONSUMPTIONS PER HOUR			COSTS \$			SPEED SQ. FT. COVERED PER HR. 0.010" THICK	GENERAL		
		ACETYL- ENE CU. FT.	OXYGEN CU. FT.	METAL (LBS.)	TOTAL COST PER HR.	COST PER LB. SPRAYED	COST PER SQ. FOOT 0.010"		DEPOSITED PER SQ. FT. 0.010"	SPRAYED PER SQ. FT. 0.010"	DEP- SIT THICK IN LBS. IN "
Spraysteel # 10	$\frac{1}{8}$ "	15	43	8.0	2.35	0.29	0.12	19.8	0.35	0.41	86
Spraysteel # 10	11 BAS	14	45	5.7	2.16	0.38	0.15	14.1	0.35	0.41	86
Spraysteel # 10	15 BAS	15	49	3.7	2.07	0.56	0.23	9.1	0.35	0.41	86
Spraysteel # 10	18 BAS	12	44	2.6	1.85	0.71	0.29	6.4	0.35	0.41	86
Spraysteel # 25	$\frac{1}{8}$ "	15	47	8.7	2.53	0.29	0.14	21.5	0.35	0.41	86
Spraysteel # 25	11 BAS	11	45	5.8	2.20	0.18	0.16	14.1	0.35	0.41	86
Spraysteel # 25	15 BAS	15	48	3.4	2.20	0.65	0.27	8.3	0.35	0.41	86
Spraysteel # 40	$\frac{1}{8}$ "	14	48	8.6	2.76	0.32	0.14	20.5	0.36	0.42	86
Spraysteel # 40	11 BAS	14	46	5.6	2.38	0.43	0.18	13.4	0.36	0.42	86
Spraysteel # 80	$\frac{1}{8}$ "	18	48	9.2	3.21	0.35	0.14	23.8	0.34	0.39	86
Spraysteel # 80	11 BAS	16	51	6.0	2.71	0.45	0.18	15.6	0.34	0.39	86
Spraysteel # 80	15 BAS	14	49	3.6	2.43	0.65	0.25	9.3	0.34	0.39	86
Spraysteel # 120	$\frac{1}{8}$ "	18	48	9.2	3.40	0.37	0.15	22.6	0.35	0.41	86
Spraysteel # 120	11 BAS	15	51	5.8	2.78	0.48	0.20	14.2	0.35	0.41	86
Spraysteel # 528	$\frac{1}{8}$ "	13	47	7.8	3.34	0.43	0.18	19.0	0.35	0.41	86
Spraysteel # 528	11 BAS	15	51	6.4	3.52	0.55	0.23	15.6	0.35	0.41	86

Fig. 2 lists some approximate costs for spraying flat surfaces with a variety of steel wire, using gas

both require the use of oxygen for combustion. The ratio of oxygen to acetylene for normal flame condition is 2.5 to 1, while the ratio for propane is 6.4 to 1, taking into consideration all wire sizes and metals used. The cost of oxygen then, may be the determining factor.

Although increased spraying speeds results from increased gas pressures, there is an economic point at which the cost of the increased gas consumption exceeds the gains involved. It is also true that the Fire Underwriters' operating pressure limit for acetylene, in some localities, is 15 lbs. per square inch, whereas propane pressures are not restricted.

Fig. 2 gives some approximate costs for spraying flat surfaces with a variety of steel wire in various

sizes, using acetylene gas at 15 lbs. per square inch.

The costs per hour include all labor and material (no overhead) and are based on the following prices:

Acetylene \$2.50 per hundred cu. ft.
Oxygen \$1.00 per hundred cu. ft.
Labor \$0.75 per hour
Air \$0.01 per hundred cu. ft.
Metal Current prices (Jan. 1941)

The following examples give the cost of metal spraying a few typical automotive parts, using both high carbon and stainless steel. The figures given include labor for the preparation of sprayed surfaces, set-up time, and finish grinding. The materials included in these figures are metal wire, oxygen, acetylene, and air. Also included is the electrical energy required to drive the machine tools

(TURN TO PAGE 74, PLEASE)

SHULER AXLES FOR HOBBS TRAILER!



● Take a look at that big Shuler-equipped Hobbs Trailer above, and then imagine it loaded down "to the guards" with fat Southwestern beef-cattle. That's a picture not only of heavy transport at low cost, but also of real axle *stamina*!

Whatever your requirements in axles for *anything that rolls*, Shuler Axles have what you need and "what it takes." High-priority production is of course accounting for almost every ounce of our capacity right now. But if there's anything in the world we can do to help you with your axle problems, we'll bust a button to help you. Drop us a line, and let's see.

SHULER AXLE CO., Incorporated, LOUISVILLE, KY.

Export Division: 38 Pearl St., New York, N. Y.

West Coast Warehouse: Ford & Derby Streets, Oakland, Calif.

METALLIZING FACTS & FIGURES

(CONTINUED FROM PAGE 72)

necessary for preparation and spray. Overhead and time lost due to job interruptions are not included.

1. Water Pump Shaft
Diameter: $\frac{7}{8}$ in.
Length of sprayed surface: 3 in.
Stainless steel wire
Average cost in groups of 12
Cost: \$0.68.
2. Brake Cam Shaft
Diameter: $1\frac{1}{2}$ in.

Length of sprayed surface: $3\frac{1}{2}$ in.
Point eighty (.80) carbon steel wire
Average cost in groups of six
Cost: \$1.48 each

3. Crankshaft
Diameter: 1.987 in.
Length of sprayed surface: $1\frac{3}{4}$ in.
Point eighty (.80) carbon steel wire
Average cost for one single throw
Cost: \$3.14 each

While metal spraying is by no means a new process, its extensive use is comparatively recent. As a consequence, there is a real need for authentic information regarding new

applications of the process, together with the cost factors and other variables encountered. This information will be supplied from time to time by the Office of Defense Transportation.

END

(Please resume your reading on P. 37)

PM REDOUBLED TO DOUBLE TRUCK LIFE

(CONTINUED FROM PAGE 33)

place. This pledge is as follows:

"In cooperation with our Government who desires that we economize on tires and gasoline and oil consumption and in cooperation with the American Bakers' Association, who have agreed to a reduction of 25 per cent in bakery truck operations, I agree to cooperate to the fullest extent of my ability and to refrain from driving my truck over 40 miles per hour. (Signed)."

This encouraged us greatly because we felt that this would help take care of our most serious problem—that of tires.

For example, we got notice about May 1 that there would be "no more new tires for city delivery." We can get a limited number of new tires for country trucks, but not enough. We are also limited on recaps. Obviously when a city truck needs new tires and if the old ones cannot be recapped, that truck must go into storage, a liability instead of an asset. Driver out of a job.

The rubber situation is so critical that we cannot allow a single avoidable accident or negligence to ruin a tire prematurely. Every one of our tires must give its very last mile of service. To emphasize this need a detailed bulletin was issued to all drivers and shop men explaining every known way to conserve rubber and make tires last twice as long as before.

In addition to these rules we required two pressure inspections on all dual wheels every day, and, testing of all tires in our own shop once each week and inflation to makers' recommended pressure. But that is not all. We have our tires on the entire fleet checked once a week by an outside tire expert and at that time also inflated to necessary pressure.

In this service the tire man in
(TURN TO PAGE 76, PLEASE)

**SERVICE for
the "Duration"
AND YEARS BEYOND**

(Left) Clampite lock with built-in lock handle and three lugs. For single or double doors. Handle can be placed in position for most convenient operation. For shorter doors middle lug, bearing and keeper are omitted.

(Above) End gate application of Clampite lock. With double doors above, one keeper may be mounted on one door as shown. Handle and padlock are centered for best appearance.

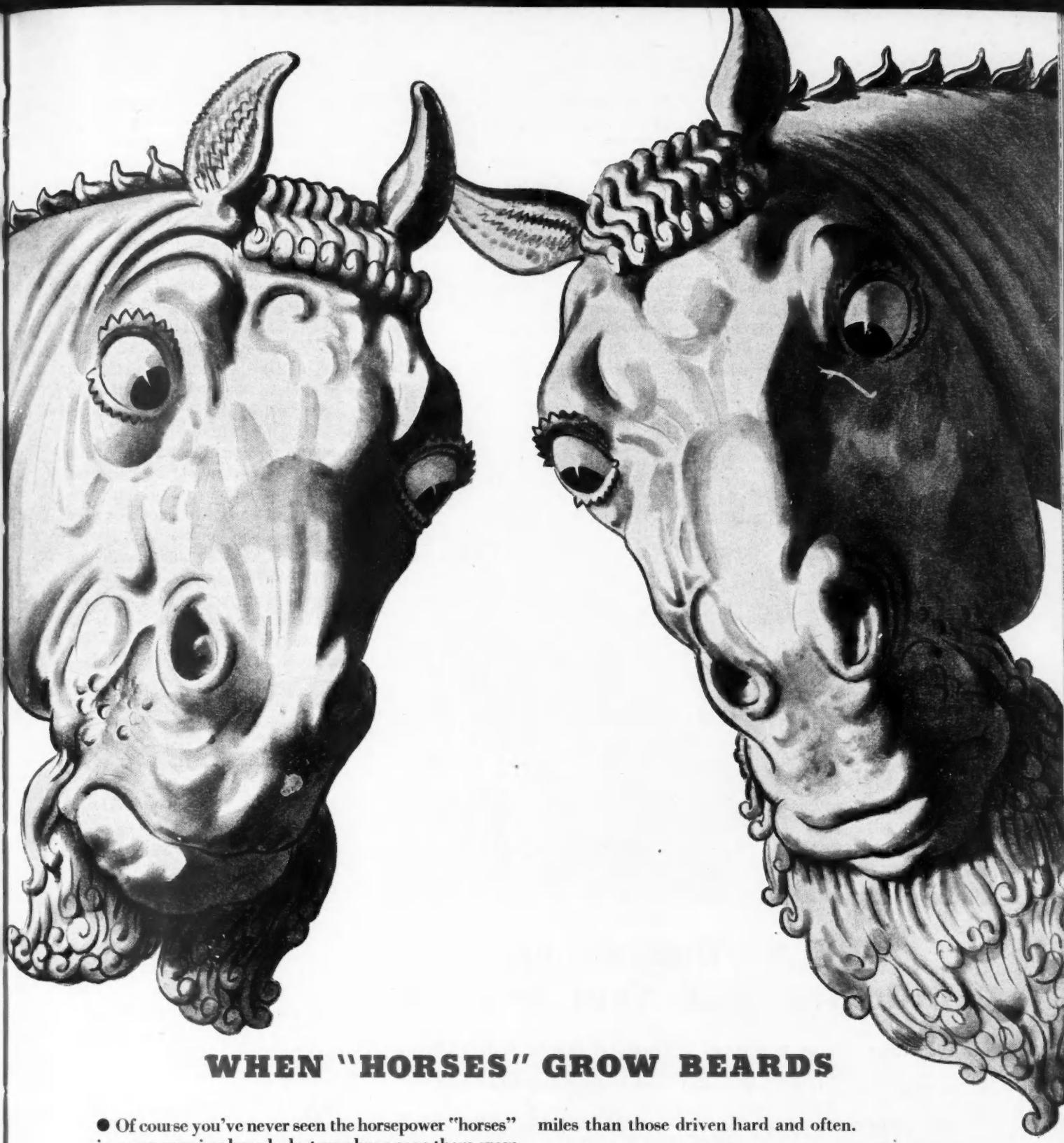
CLOSE STUDY of Eberhard Hardware—*"spot lights"* many features of excellence—improved designs and outstanding principles of operation—rugged proportioning of all parts—uncommonly accurate machining and fitting of related parts.

These factors combine to provide that renowned Eberhard extra quality which assures added years of service.

If your trucks are Eberhard equipped you'll doubtless be impressed with this fact even under today's grueling service. Check their performance in relation to your future needs and whenever you have the required priorities specify "Eberhard" hardware to assure getting greatest value in performance and service.

EBERHARD Long Run
TRUCK BODY FITTINGS

EBERHARD MANUFACTURING CO.
Division of the Eastern Malleable Iron Company • CLEVELAND, OHIO



WHEN "HORSES" GROW BEARDS

• Of course you've never seen the horsepower "horses" in a car growing beards, but you have seen them grow sluggish and less efficient. The commercial cars and trucks that are serving America at war just can't afford to let this happen. Fortunately, there's an easy, economical way to keep motors young and sprightly. That's by using Casite!

Even if motors are driven less, they need Casite more. Motors run only occasionally are subject to more corrosion—become dirty and gummy in fewer

miles than those driven hard and often.

Casite cleans out sludge and gum from vital areas and keeps them out. And Casite's oil-carrying ability improves oil circulation and cuts down wear.

For better and more economical performance, use Casite all the time—a pint in the crankcase with each oil change and a pint through the carburetor each 5000 miles.

THE CASITE CORPORATION • HASTINGS, MICHIGAN

CASITE

CLEANS OUT MOTORS • KEEPS MOTORS CLEAN

PM REDOUBLED TO DOUBLE TRUCK LIFE

(CONTINUED FROM PAGE 74)

spects each casing for cuts, carcass breaks, loose shoulders, embedded glass, gravel or nails. As water in the carcass is the tire's worst enemy we have all such injuries repaired immediately to insure a higher percentage of recappable tires. As a result of these several careful inspections and remedies we have boosted

the percentage of recappable tires from a previous high of 50 per cent to a new record of 75 per cent of tread-worn tires. Limiting speed to 40 miles per hour has helped.

For many years our recapped tires averaged 70 per cent of original tread mileage. We found camel back as durable as new rubber but the difference between mileage of a new and a recapped tire was due to the recap being slightly thinner than the original tread.

A tire carcass will break below the

bead or at shoulders from running it flat a short distance or by prolonged under-inflation. This makes it unfit to recap, so we now use a reliner. We need all the extra mileage in that tire. Years ago we used reliners because tire prices were high and quality poor with only 3000 miles' average service. Then we found reliners economical when put in right and when tires were kept properly inflated. The same condition is true today. It is a waste of money, however, unless the inside of carcass is buffed clean, then cemented with two coats of cement before putting in the reliner. Then it must be rolled down firmly to remove air pockets. A thin strip of rubber should be cemented across the end lap to prevent tube chafing. A good flap should be used to prevent tube pinching.

We now have all small holes and small fabric breaks sectionized unless the repairman recommends a temporary boot to prevent carcass break from cutting through the reliner. The condition of the tire itself will show which one of these methods should be used. A tire with good tread but injured carcass can be vulcanized to last as long as the rest of the tire. Temporary boots should be used only in casings not worth a section, but the break should be "skived" around the injury for a distance of 1 inch back. This space should be filled with raw tread stock or tube repair rubber. The boot is cemented over this temporary repair. It prevents chafing the tube as the tire flexes in use. Such a repair often is good for several thousand miles if kept properly inflated in tires that would normally be thrown away.

Our tire repair man, recognizing the serious problems confronting us, is helping to boost the percentage of recappable tires. He repairs small breaks or spike puncture holes on casings that would ordinarily be discarded before the emergency. He recaps these casings and guarantees the mileage. Of equal importance to us he has a tire balancing machine which insures correct balance of the finished tire. This avoids high spots and affords even wear. It also improves mileage. Tests show that unbalanced tires wear 20 per cent faster than properly balanced ones.

Our truck tires in the past have averaged 40,000 miles. Although ac-

(TURN TO PAGE 78, PLEASE)



"We All Depend on Continental Red Seal Engines"

Whether it's in a plane, a tank, a truck, a tractor, or for industrial use — these operators know that when it comes to real performance, they can always depend on Continental Red Seal Engines.

Continental Motors Corporation

MUSKEGON, MICHIGAN





Rislone Makes **4** Vital Savings

Keeps Engines Operating Efficiently!

1 Conserves Oil

Saves it for our fighting forces.

RISLONE added to the regular oil in the crankcase absorbs gum and sludge formations—eliminates and prevents sticky valves—restores lost compression and power.

2 Saves Fuel

RISLONE "cleans out" engines—frees valve and ring action—equalizes compression in all cylinders, assuring "peak" performance and a reduction in fuel consumption.

3 Prolongs Engine Life

RISLONE rids engines of power-robbing gums, increasing their efficiency. Its high capillary attraction assures proper and adequate lubrication at all times, thus reducing wear on vital moving parts. RISLONE

reduces the "time-out" periods for repairs—prolongs engine life and cuts operating and maintenance costs.

4 Saves Manpower...Service Costs

The consistent use of RISLONE right in the crankcase with the regular oil assures a quieter, smoother running engine. Service work and replacement part costs are reduced, leaving your help free to do other productive essential work. Recommended and used by engine builders and car factory engineers.



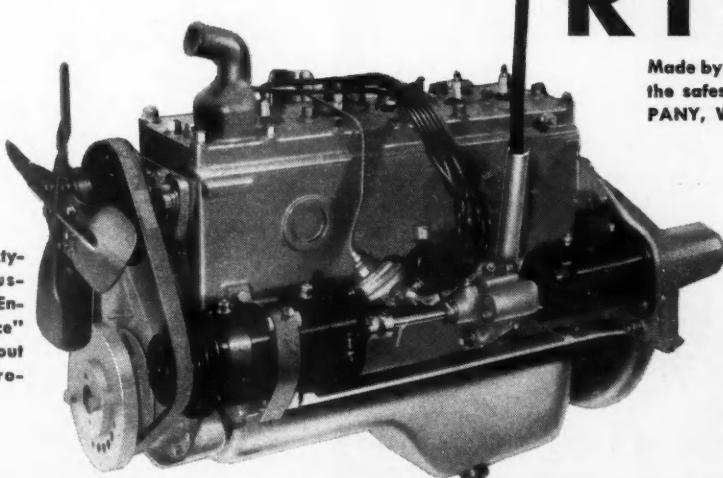
RISLONE has been used for many years by motorists, fleet and bus transportation operators, our Armed Forces, industrial and construction machinery operators.

SHALER
RISLONE

Made by the makers of World-famous "Hot Patches,"
the safest tube repairs known—THE SHALER COMPANY,
Waupun, Wisconsin, and Toronto, Canada.



RISLONE is available in five, fifteen,
thirty and fifty gallon fauceted
drums for shop use—Lithographed
packages for the consumers.



Write for free sixty-four-page illustrated book, "Engine Performance"—tells all about "Tune-Up" procedure.

(CONTINUED FROM PAGE 76)

curate records are not yet available due to lack of time, we have increased tire mileage by our drivers' pledge to keep within the 40-mile speed limit. We expect this factor alone to extend the mileage 25 per cent. Barring accidents we will save 90 per cent of all first carcasses for recaps. The time is coming soon when our combined efforts will enable us to recap tires six to eight times. We have only begun to

scratch the surface. We look to see the 200,000-mile casing a commonplace. We are going to achieve this only by discipline in our own shop, our outside tire man and common sense driver.

The outstanding factor in our truck maintenance has been to use the best of replacement parts to keep our trucks in the pink of operating condition. In the first five months of 1942 we installed seven new engines in our 1½-ton units. This was done on trucks that were ready for complete

overhauling. Ordinarily we would have traded these engines in or perhaps the entire truck. But we stored these old engines and are holding them to salvage parts for later emergencies. We are using every effort possible to prevent trouble before it begins.

Scientific lubrication is foremost in the category of preventing trouble. For example, we reduced the number of major overhauling jobs by one third after we installed oil filters. Putting it another way, it is a direct increase of engine efficiency and longer life amounting to 33 1/3 per cent. Actual figures from our records show that the use of clean oil has enabled us to boost our mileage between valve grinding jobs from 45,000 to 60,000, and raised the complete rebuilding of engines on our country-operated trucks from a former 75,000 miles to 100,000-mile periods.

But that is only part of the story. First, the filter maker guaranteed 25,000 miles between crankcase oil changes by changing filter cartridges when oil contamination was indicated. We followed that schedule one year. In that time we encountered no bearing trouble or undue wear on cylinder walls from dirty oil.

We judge the oil condition solely by its appearance. If and when it looks dark and muddy we change it. We like to see the oil a rich golden color; then we know we are not feeding our bearings, cylinder walls and pistons a constant dose of abrasives in oil thinned by gasoline dilution.

In our engines carbon is the worst factor to contend with—not water. Our trucks run hot enough to evaporate water if any gets in. As an extra safety measure and because motors are getting older, we now change our oil about every 10,000 miles or when its appearance is dark and muddy.

While the saving on oil means something it is only a small factor compared with cutting down on major overhauling and on the use of replacement parts. To explain this, before we installed the new filters we used 6 quarts of new oil every 500 miles on our city trucks and 6 quarts of new oil every 1000 miles on our rural trucks, as we changed crankcase oil at those stated intervals. You can figure that out and you will find

(TURN TO PAGE 82, PLEASE)

A black and white photograph of a large industrial air compressor unit. The unit is cylindrical with a vertical filter element attached to the top. A Kellogg-American filter cartridge is mounted on the side. The background shows a blurred scene of a factory or workshop.

PRODUCTION FOR VICTORY
... Kellogg has accepted its responsibility to a fighting America. Currently in production are compressors and special parts and assemblies for the Army, Navy and Air Corps.

A KELLOGG-AMERICAN CERTIFICATION means Profitable Operation for You . . . All Kellogg-American equipment must survive thorough testing — a merciless workout, far harder than any service you can give it. Kellogg takes the grief, you get long service, low upkeep and power cost, the most you can get for your money in shop equipment.

AMERICAN BRAKE SHOE & FOUNDRY CO.
KELLOGG DIVISION
ROCHESTER, NEW YORK U.S.A.

Kellogg-American

AIR COMPRESSORS • CAR LIFTS • CAR WASHERS • PAINT SPRAY EQUIPMENT

HASTINGS

MOTOR-ENGINEERED

SETS



INSURE BETTER RING JOBS AND SAVE TIME AND MONEY

★ Hastings Steel-Vent Motor-Engineered Sets are engineered specifically to meet the requirements of the particular motors in which they are installed. With these sets you can be doubly sure of stopping oil-pumping and checking cylinder wear.

They answer your ordering and stocking problems too—permit you to have the proper rings, already assembled in sets, ready for the job when you need them.

Steel-Vent Motor-Engineered Sets are available for most trucks and buses.

HASTINGS MANUFACTURING COMPANY, HASTINGS, MICHIGAN

Hastings Mfg. of Canada, Ltd., Toronto

Piston Rings • Piston Expanders • Valv-Rings

TOOL UP FREE... WHILE YOU CAN!

The Hastings Service Tool Plans make it possible for you to get these and other valuable tools free with the purchase of Hastings Steel-Vent Piston Rings.



NEW HASTINGS AIR-PEEN HAMMER—compact, light, fast and easy to use. Permits pistons to be peened in the cylinder. Operates from air compressor.



SAFE-T-BLADE RIDGE REAMER—Removes the ridge above the ring travel in worn cylinders preventing serious damage to the top ring. Cutter automatically follows the ridge regardless of shape of bore.

HASTINGS

STEEL-VENT PISTON RINGS

U. S. Patent Nos. 2,148,997, 2,375,109

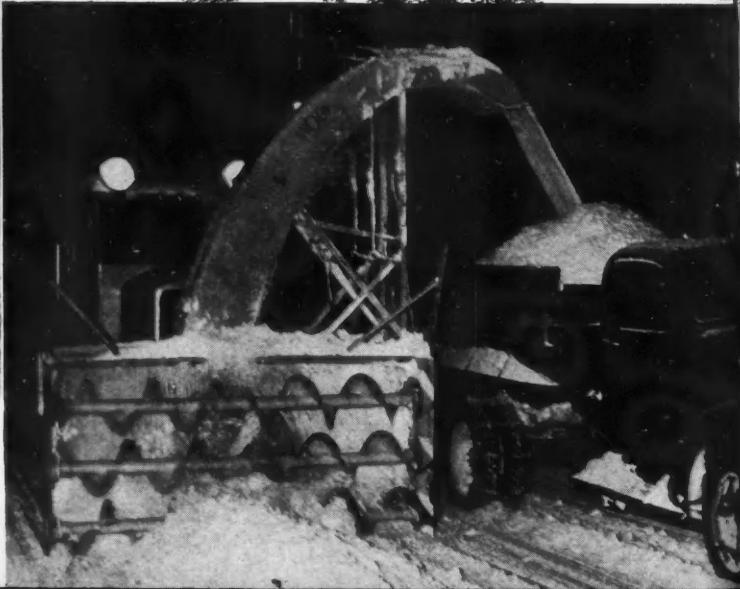
Stop Oil-Pumping • Check Cylinder Wear

Shutdown



Above: Snogo is fast, easy to handle and it packs a truck full in 10 to 20 seconds

Right: Snogo can work at night and do a large part of the job before traffic becomes heavy.



SN GO

For
Complete
Snow
Removal

OLD MAN WINTER

Old man Winter can slam the plant door shut. He can keep vitally needed material from getting through. He can block the loading zones. He can delay delivery from plant building to plant building. He can block up the parking area. He can tie up outside and inside traffic in an everlasting knot that will take days to clean up by ordinary methods. There is nothing new about this. Old man Winter has done it many times before. But this year that *must not* happen!

Below: Drive-ways, crosswalks and doorways will be left open like this private drive. Compare this with the banks left by blades and push plows.



Snogo is helping to keep the plant doors open in hundreds of communities. With Snogo on the job, truck fleets and goods get to their destinations. Snogo cleans up plant alleys and roads. Snogo cleans up loading zones, parking areas and highways. Snogo is the fastest proven method of loading snow—and when Snogo gets through, the job is done until the next snowfall. No banks to drift, no expensive repeat plowing, no rehandling, and driveways and doorways are clear.

This year snow fights for the Axis. Snogo is sure protection!

KLAUER MANUFACTURING CO.
Dubuque • Iowa

THERE IS A SNOGO FOR
EVERY BUDGET—FROM
A 1½ TON TO THE
LARGEST FOUR WHEEL
DRIVE TYPE OF TRUCK

Assure Delivery with Open Roads!

(CONTINUED FROM PAGE 78)

the savings in 10,000 miles of driving on each of our 61 trucks is something very much worth while. It is a real contributing factor to our goal of double truck life and service. We overhaul engines one-third less times than we did before. In money this means a saving of \$41.66 per truck per 100,000 miles.

No longer do we throw away broken fenders or bumpers. We weld them. No matter how badly a

fender is wrecked the cost of straightening, welding cracks, sanding and refinishing would be less than the cost of replacement.

Seldom is a transmission housing broken, but we had one case of welding a differential housing that cost us \$4 for labor and material. The price of a new housing was \$30. Labor would have been \$20 to take out the old one and put in a new housing. We welded this directly without taking down the unit. Recently a chassis inspection showed a cracked

frame. Welding saved it, with \$2 spent for labor and material. A new frame cost \$150 and labor to dismount and reassemble.

We even weld our own white metal—aluminum or die castings—with acetylene equipment. For example, we weld broken ornaments, emblems, chrome plating parts, radiator grills, also broken window cranks, ventilator openings, etc., at a cost far below the price of replacements. We welded a broken radiator cap which cost \$5.75 new. The cost of welding as good as new was a few cents worth of material and 15 minutes' labor. Even in these times it's important to keep our equipment looking spic and span. Straightening injured fenders and body panels, welding broken parts as described are the biggest factors in this program, and the economies are obvious.

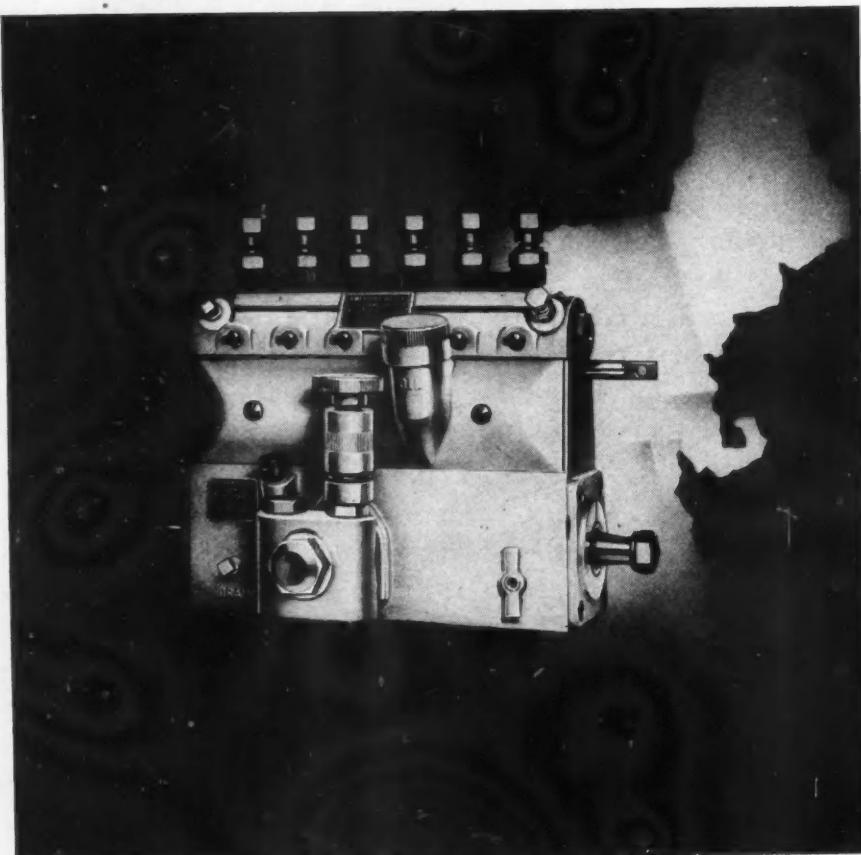
It is a mistake to believe that welding is an expensive process, especially as outlined in our white metal and die-casting process. A little patience combined with skill is all that is necessary. If a job blows up the first time, try again to weld with white metal. The company was interested enough to hire a trained welder to come in and teach our foreman to do this work. Our foreman was experienced with arc and acetylene welding but did not know how to weld aluminum. Watching the instructor he caught the idea in 15 minutes of actual time. Then he practiced until he got perfect results. It is also a false theory that this type of welding is expensive. The aluminum rod does cost more than other metals but the amount saved on these small jobs makes the cost very low as compared to the replacement.

Prior to the emergency we made a thorough engine and chassis inspection of all trucks every six weeks. This included engine tune-ups, tightening of all loose nuts and bolts, comparison of records for oil and gasoline consumption, chassis lubrication, and brake tests. But in the past six months we have doubled this vigilance by carrying the program through every three weeks and include check-up on wheel bearings and compare records for gasoline consumption. By doubling this engine tune-up schedule and reducing drivers' speed limit to 40 miles per hour we have increased our gasoline

(TURN TO PAGE 85, PLEASE)



NEW ENGLAND CRAFTSMANSHIP



AMERICAN BOSCH DIESEL INJECTION EQUIPMENT

AMERICAN BOSCH CORPORATION SPRINGFIELD, MASS.
BRANCHES: NEW YORK, CLEVELAND.

DETROIT, CHICAGO, SAN FRANCISCO



PM REDOUBLED TO DOUBLE TRUCK LIFE

(CONTINUED FROM PAGE 82)

mileage on most of our trucks by 3 miles per gallon of gas. Even on our heavier city trucks we have gained one extra mile per gallon of gas.

We repaint our trucks when an engine is up for general rebuilding. We have an expert painter and letterer who does all this by hand brush. He turns out an excellent job and keeps our units attractively finished.

Our new 40-mile speed limit means that we will get more than the former average of 60,000 miles on our brake lining. The ruling has not been used long enough to say how much. But these and other economies are showing up all along the line—tires, motors, brakes. We anticipate lengthening of body life by reduced speed and greater driving care through less vibration. The right speed with safety is the main thing. Certainly 40 miles per hour is fast enough. We get deliveries through on time. Customers are satisfied. On these scores we are well on the way to make our trucks last until new ones are available again.

Recently we made radical changes in our body design on 1-ton bread delivery trucks. We are doing away with the old panel type body with the cab an integral part. We are replacing these wooden bodies as fast as they wear out with a new all steel body with the same carrying capacity as the old one. It is interchangeable and can be transferred from one truck to another.

The carrying capacity of the new style is the same and the maker guarantees this body for the life of three trucks. Our old type of body was usually worn out when the truck was ready for a trade in, as it was made of wood and vibration would shake it to pieces. The cost of the new body is about the same as the old style but we expect to get three times as much service out of it. We like the new style for its neat appearance and full streamlined effect.

Accurate cost records on maintenance are kept by a simple system of daily time tickets. One covers checking in and checking out of each truck, including all service and supplies used on that day. A further check on necessary service is ob-

tained by having each driver fill out and turn in a daily trouble report sheet. This enables us to get at and repair, replace or adjust any part of the truck between regular three-week inspection periods.

A special tire report is also required to be turned in promptly in case any tire trouble has arisen between regular inspection periods.

A small ticket covering monthly gasoline consumption and oil changes is also used, and turned in for the permanent office records. A requisition

ticket is used for replacement parts, later to be transferred to the permanent records.

END

(Please resume your reading on P. 34)

Fuel Pump Diaphragms Are Guaranteed

The Airtex Automotive Corporation at Fairfield, Ill., manufacturers of the Airtex Fuel Pump, have unconditionally guaranteed the Airtex diaphragms for 50,000 miles of efficient service.

**Right Up Here
in the Cab**

KING CO.

**THE SERVIS RECORDER
HAS ENLISTED**

**On Motor Trucks, Airplanes
and Factory Machinery-**

-Speeding Transport and Production for Victory!

"Make use of what you already have." That's the order of the day.

Uncle Sam is in that kind of a fix, and it just so happens that this problem is right down the alley of the Servis Recorder.

"A pound of Servis Recorder" can and often does save more than half a ton of motor truck, or factory machinery!

The trucks you already have—keeping them busy, making five trucks do the work of six, getting an extra trip a day, cutting down loading time, etc., etc.—Sounds practical; IS practical. It helps the war effort. At your service. THE SERVICE RECORDER Co., 1375 Euclid Ave., Cleveland, Ohio.



The Servis Recorder
Tells Every Move Your Truck Makes

FRAM keeps 'em rolling



A PLEDGE

To Keep 'Em Rolling Longer

Realizing that motor trucks are vital to our national transportation welfare, that the existing supply is all but irreplaceable, and that every extra mile each truck can be made to serve in safety is a direct help to the war effort . . . I hereby pledge that I will regard it as my patriotic duty to do all in my power to prolong the life of any truck in my ownership or care.

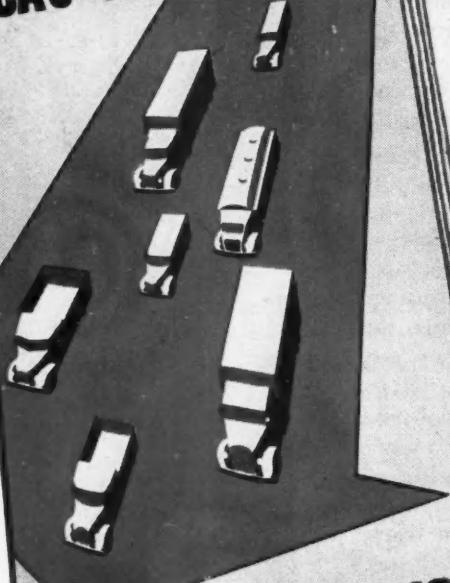
I will cooperate in a Preventive Maintenance Program.

I will do my part to see that frequent mechanical inspections are made and that all necessary adjustments and minor repairs are promptly taken care of to prevent major repairs, with consequent waste of parts and materials.

I will see that my truck is driven properly to avoid accidental damage, excessive tire wear, and gasoline waste.

(Signed) _____

AMERICA'S TRUCKS



KEEP 'EM ROLLING

OFFICE OF DEFENSE TRANSPORTATION - WASHINGTON, D.C.

FRAM

President Roosevelt

has appealed to every Fleet Owner and every Truck Owner, to SIGN THE ODT PLEDGE to "keep 'em rolling — longer." The official pledge will be found on page 15 of the booklet, "America's Trucks . . . Keep 'Em Rolling."

Your trucks today have a bigger job to do than ever before—with fewer replacements available to ease the job. Now it's your patriotic duty, as well as common sense, to prevent breakdowns by careful maintenance and operation.

Answer President Roosevelt's appeal. Get behind the Office of Defense Transportation's Truck Conservation Program. See your Fram jobber today—sign the pledge—and receive FREE an Official ODT decalcomania for every vehicle in your fleet, to show you're doing *your* part!

'em Rolling L-O-N-G-E-R!

it's time to

**CONSERVE
MOTORS AND PARTS
OIL AND OVERHAULS
DOLLARS AND DELAYS**

HERE'S one of the most important things you can do to fulfill your pledge and get *extra* mileage from present equipment. Check your fleet. Do all vehicles have oil filters? Are you *sure* they are of adequate size for today's severe conditions? On hundreds of trucks from coast to coast, Fram Oil & Motor Cleaners have *proved* they cut operating costs by reducing motor breakdowns. Listen to reports from Fleet Owners who know by actual trial what Frams will do:

Fleet Owners Report Fewer Breakdowns, Fewer Repairs

"Frams cut engine wear in half," says a bus operator. "200,000 miles and more before reborning," reports a transportation company. "Wear found to be 3 and 4 times more on engines *not* equipped with Frams," says a Los Angeles operator. These are just a few of the many letters, based on actual shop records, which we've received.

Two Steps that Mean Longer Engine Life

Take one of these two steps NOW to lick your biggest conservation problem, dodge costly replacements and time-consuming overhauls. (1) If your fleet is not filter equipped, install

Frams. Your jobber can supply big, heavy-duty Frams made to order for the engines you have and the job they're doing today. (2) If your fleet has filters, check their size and condition. Step up their performance by equipping them with genuine, chemically-treated Fram Replacement Cartridges. Fram Cartridges not only filter out dust, dirt, sludge and abrasives, but also impede formation of acids and other harmful corrosives that eat away motor parts.

Guaranteed to Save You Money

You can check our claims on your own fleet—without risking one penny! Here's Fram's Guarantee: Install Frams. Operate for 90 days. Then, if you're not convinced that Frams save their cost many times over, we'll gladly refund your money. Get the complete Fram story from your Fram jobber.

FREE—ODT Decal for Every Truck

Here's how to "enlist" in the ODT Truck Conservation Corps. See your regular Fram jobber. Tell him you want to sign the pledge to "keep 'em rolling—longer." Your Fram jobber will supply FREE, handsome "Pledged" emblems to place on every vehicle in your fleet. Let's show the world what America's truck fleets can do to win this war!

FRAM CORPORATION, Providence, R. I.

OIL & MOTOR CLEANER



HOW'S YOUR OIL FILTER?

"The Dip-Stick Tells the Story"



GLOBE-UNION PRODUCTS DO THEIR SHARE!

On roaring tanks and jeeps, on fighting ships and planes—lives depend on the trustworthy performance of batteries, spark plugs, radio and other vitally essential parts. Globe-Union products offer such dependability. Tested by the 'fires' of civil-

ian use for many years, Globe-Union batteries, spark plugs and radio parts will continue to give a fine account of themselves. In civilian use or in the fight for freedom, these products stand as a National symbol of excellence and of unfailing dependability.

GLOBE-UNION INC. • MILWAUKEE
ATLANTA, BOSTON, CINCINNATI, DALLAS, LOS ANGELES, MEMPHIS, PHILADELPHIA, SEATTLE

CT-942



QUIZ ANSWERS

Questions on page 67

1. b. The title is "America's Trucks—Keep 'em Rolling." The booklet sets forth the basic principles of preventive maintenance for the nation's commercial vehicles. Over three million copies have been printed and are being sent to dealers, garages, service stations, and truck owners.

2. b. Wood bodies instead of steel. The conversion calls for 50 per cent change-over by Aug. 1 and 100 per cent change-over by Sept. 1. This change is estimated to make possible annual savings of 275,000 tons of steel.

3. c. Automotive Council for War Production, which takes in just about the entire automotive industry. Ernest Kanzler, automotive divisional head of the War Production Board, suggested a better group of initials—ABCDEFGHIJ—Automotive Business Combination Designed Especially for Getting Hitler Including Japan.

4. a. It has become practical to assemble such large sections of these bombers at Ford's Willow Run plant that they are too large for freight cars. As a result, special tractor-trailer giants have been constructed. Trailers are 60 ft. long, 90 inches wide, and 10 feet high, and two such trailers are able to haul an entire bomber. Despite an over-all length of more than 70 ft., these vehicles are able to negotiate all street corners, underpasses, etc., on the 1000-mile route between Willow Run and a southern assembly plant.

5. b. Demolition and clearance. The work of these crews includes the removal of rubble from the streets and filling in of craters made by bombs.

6. a. Three out of four. After six months of war the Automotive Council for War Production issued its first formal report, "The Job Is Being Done—the Automotive Industry Reports to the Nation—Its Only Customer Today." This report disclosed that the auto industry is building 75 per cent of the nation's aircraft engines; more than half of the Navy's Diesel engines; more than a third of all machine guns; almost half of all tanks and tank parts; in addition to all the motorized units and hundreds of miscellaneous parts and accessories.

7. d. The War Production Board stopped all production of autos and light trucks beginning Feb. 1, 1942. Exceptions were made, however, to permit operations until Feb. 10 to complete January's permissible quotas.

8. d. The president of the White Motor Co. is Robert F. Black.

9. a. Employment in the auto plants of the Detroit area has reached 524,000 workers in May, topping the all-time figure of 503,000 workers in June, 1941, before the curtailment of auto output. By November an estimated 660,000 will be needed, and by midsummer of 1943 a total of 746,000.

10. b. A jeep costs \$900 or forty-eight \$25 bonds at \$18.75 each. You make a profit of \$6.25 on every \$25 bond you buy, guaranteed by Uncle Sam himself. So start buying them and keep on buying them.

**Everything You
Need for a
Thorough Job—**



ALL In One Handy Package

When, after many thousands of miles of good service, it is necessary to restore original carburetor performance and mileage...use the CARTER REPAIR PACKAGE.

It contains the parts essential for a thorough job and the latest tune-up specifications.

Order from your nearest
Carter distributor or jobber.

**C A R T E R
R E P A I R
P A C K A G E**

C A R B U R E T E R
Regulated by Precision Casting
PRODUCTS OF PRECISION



CARTER CARBURETOR CORPORATION, St. Louis, Missouri

Division of American Car and Foundry Company

PM ADJUSTED TO SEASONAL DEMANDS

(CONTINUED FROM PAGE 39)

trical equipment about the same and adjust the brakes about every 10,000 miles. Usually only a bit of cleaning and re-gapping is required for the spark plugs.

We regard lubrication as of major importance, so we change oil completely every 1000 miles or less, depending on the nature of the job to

be performed, the difficulty or otherwise of the territory to be traversed, the length of the run and so forth. One of our runs is of about 750 or 800 miles. It is mountainous country, up near Redding. The truck that makes that run gets a change of oil before starting out on each trip.

We try to train our mechanics not merely to check on the certain things he is going after, but on everything that may be needed in that general category. For example, if the brakes

need taking up, the mechanic doing it checks on the bolts, brackets, etc.

In order to carry on a preventive maintenance program as it is understood by most fleet operators would require extra men. These men we should not need in our off-season period and it would be uneconomical to keep them on during this slack time. So we must adjust ourselves to the situation as it faces us. We give our trucks a thorough overhauling, usually during the idle season from October to April, or up to June if the overhauling is to be given to the trucks that work in the fruit. This fits in with our 30,000-mile schedule for overhauling, for our trucks usually have traveled that far or farther by the time the slack season rolls around. During the off season we have our tire men do all of our painting jobs and use men from other departments in various other capacities to avoid dismissing them in the idle months.

When our trucks and trailers leave our Oakland plant at the beginning of the vegetable or fruit seasons they remain in the district where they are at work for the entire season, putting up and having their repairs made at the headquarters for that section. We send mechanics out with the trucks and they remain at the district headquarters until the season is over. One of our headquarters, with a repair plant, is at Thornton, which is between Stockton and Sacramento. The trucks used there go out from Oakland in April, carrying vegetables to the canneries and remaining until June. There is a week or 10 days between the vegetable and fruit seasons and these trucks return here during that interim for such repairs as are needed. Formerly we had three repair plants there, but we have only one now. We also have two other headquarters, one at Marysville, above Sacramento, and the other at Tagus, near Fresno. In the Marysville district about half of the fruit goes to Sacramento and most of the other half to the canneries at Sunnyvale.

The majority of our road failures are due to broken fuel lines, pump difficulty, vacuum failure, or something similar. We now have working agreements with other fleet operators which provide reciprocal ac-

(TURN TO PAGE 92, PLEASE)

NO BRAKE OR CLUTCH JOB TOO BIG FOR THE Chicago "APEX"

THIS big, husky, rugged rivet setting machine fills the bill for truck fleet operators. Actually, it's a complete brake relining and clutch refacing department in itself. Every stage of the work; delining, drilling, countersinking, riveting, straightening and grinding is performed without the operator leaving the machine. Equipped with every known labor-saving feature. Handles any size job... passenger car, truck, bus, army transport and airplane brakes using tubular rivets... in less time and with less effort than any other foot power machine made.

QUICK DELIVERY



WRITE FOR CATALOG DESCRIBING THE COMPLETE "CHICAGO" LINE

Chicago Rivet AND MACHINE CO.
9616 West Jackson Blvd., Bellwood, Ill.
Chicago Suburb

TRULY AMAZING PERFORMANCE

LUBRICATION engineers went beyond developed Thompson Aerotype Break-In Oil. It was quite a scientific trick to develop compounds that would inhibit carbon, gum, varnish, engine acids, sludge, and corrosion. These patented compounds, processed with fine paraffinic base motor oil at the refinery, insure perfect lapping-in of important new parts. It is a super-lubricant for all types of engines including aircraft, Diesels, and heavy duty units.

Thompson AEROTYPE Break-In Oil
is not an additive—you fill the crankcase with
this motor oil that WETS SUPER FINISHES
and WON'T RUN AWAY FROM HEAT.

Good repair shops, knowing the need to prevent scuffing, scoring, and rapid initial wear during the critical break-in period are using Thompson Aerotype Oil whenever new engines, rebuilt engines, or important new parts are to be run in.

Thompson Aerotype Oil is also proving to be an unusually fine and economical "regular service" oil for fleet operators and all other heavy duty motors.

THOMPSON PRODUCTS, Inc.
CLEVELAND
Detroit • Los Angeles



Made exclusively for
Thompson Products and
sold only through TP
Jobbers. SAE 10 and
20 (50 for aircraft).

"CRANKCASE INSURANCE"—TRULY IN LINE WITH THE TIMES

Thompson AEROTYPE BREAK-IN OIL

FOR NEW AND REBUILT ENGINES—HEAVY DUTY UNITS—DIESELS—AIRCRAFT

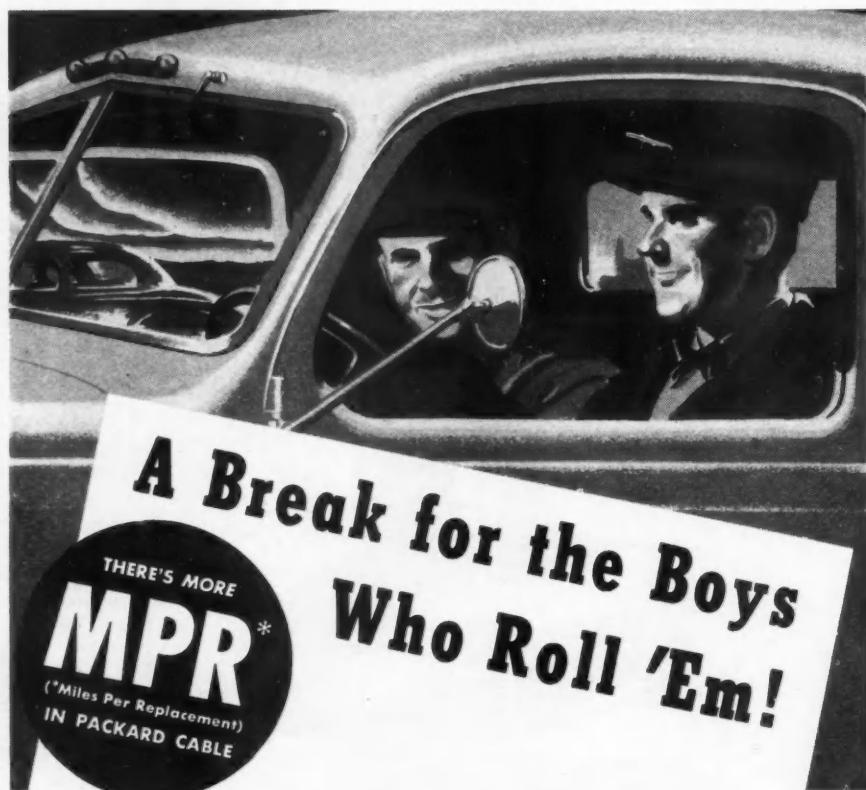
GET IT FROM
YOUR THOMPSON
PRODUCTS JOBBER



Being a contract carrier, Morris Draying Co. operates many types of trucks. Here's a big combination

(CONTINUED FROM PAGE 90)
tion in such cases that saves us both

money. When a road failure occurs in a spot which would take us quite



PACKARD CABLE

When you're highballin' along to deliver the goods on schedule, you don't want any slacking away of power caused by worn-out ignition cables . . . or any lay-ups caused by cable failure.

Packard cable is designed to take the punishment of tough runs . . . to stand up under the attack of heat, hot oil, moisture, vibration and electrical stresses. Years of research, both in the laboratory and in the field, have led to improvements and refinements that give Packard cable more MPR—more miles per replacement—in heavy-duty service. Every manufacturing operation, from processing the raw materials to the final packaging, is carried on right in Packard's modern factory, where quality

and uniformity are carefully controlled.

Apply the advantages of Packard cable to your fleet . . . get better performance and cut down cable replacements. Your Packard jobber will help you select the type of Packard cable that provides maximum dependability and economy for your fleet operations. Packard Electric Division, General Motors Corporation, Warren, Ohio.

Packard
REG U.S. PAT OFF
TRADE MARK
"Working for Victory"

THE STANDARD WIRING EQUIPMENT OF THE AUTOMOTIVE INDUSTRY

a while to reach, perhaps an hour or two, while men from another plant could get there in 15 minutes or so, they do the job for us and we reciprocate when their breakdown is farther away from them and nearer to us.

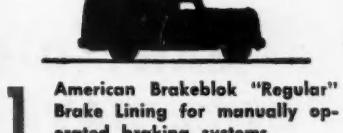
We recap our tires regularly and consistently. We are firm believers in that process. A few of them get a second recapping, but not many. We recap all of them at least once. The life is pretty well burned out of the carcass by the time the first recapping is worn out. Then we usually dispose of them. We could transfer them to some other truck for light work, but we don't have enough trucks in town service that use the same size tires as do the trucks in country hauling to enable us to finish them up in town work. Our new tires average about 50,000 miles usage on a truck and from 70,000 to 100,000 on a trailer. If the recapped tires do not blow out, their mileage is equal to that of the new ones—in fact, it often goes beyond the original mileage.

The manufacturers declare you should leave about 10 per cent of the rubber on a carcass when you recap. But we leave only about 5 per cent or none at all. We wear them clear down to the breaker strip and even through the black rubber. We found it made no difference whatever in the life of the recapped tire and figured we might as well get the usage of that last rubber.

We don't put recapped tires on the front wheels. We do not consider them as safe as the new tires. We put them either on the drivers or the dummies. The recaps on the trailers, especially, we do not recap a second time. On these trailers it takes from 75,000 to 100,000 miles to wear the tire down and by that time we figure the life of the carcass is about gone, and that if we recapped again we would be in constant danger of a blowout and we probably would not get more than 10,000 extra miles at the most. We put oversized tires on our trucks to take care of the big load. That makes it much safer, for it is not the wearing of the tire but the pressure from too heavy a load that causes a tire to blow out.

If we can get our recapped tire to
(TURN TO PAGE 94, PLEASE)

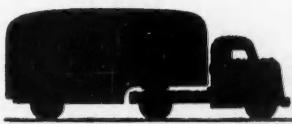
Use American Brakebloc's Free Advisory Service
for good brakes that make it
easier to "GO EASY"



1 American Brakebloc "Regular" Brake Lining for manually operated braking systems.



2 American Brakebloc "1000 Series" Brake Lining for vacuum-booster braking systems.



3 American Brakebloc "2000 Series" and Thick Blocks for airbrake equipment.



Master stocks in 37
NAPA Warehouses.
Jobbers everywhere
give prompt service.

GOOD BRAKES help drivers do a better job of truck and tire conservation. To help you provide good brakes, American Brakebloc offers three types of heavy-duty brake linings and a free Advisory Service to adapt these linings to your units.

The box above shows the range of uses of these linings; your American Brakebloc representative has an Advisory Service form he will gladly fill in for you, then he will send it to our engineers for study.

You will then receive valuable and specific information on brake materials for your units. Just ask your American Brakebloc representative, or write us for an Advisory Service form.

THE AMERICAN BRAKE SHOE & FOUNDRY COMPANY

AMERICAN BRAKEBLOC DIVISION, DETROIT, MICHIGAN

American
Brakebloc
BRAKE LINING



American Brakebloc's Stopper the Pup is busy these days in national magazines telling 15,000,000 readers how good brakes conserve trucks, cars and tires.

(CONTINUED FROM PAGE 92)
wear completely out, which is what happens in the majority of cases, we cut the cost of our second tire by about four-fifths because a recapped tire costs about one-fifth that of an original one. We rotate our tires to a certain extent. We try to keep the new ones on the front wheels. When they are about 60 per cent worn we change them to the dummies. We don't change tires to make them wear evenly. You can't make any money by rotating them fre-

quently. We match our dual tires for size. We don't put a worn one with a new one. We check on them constantly. When one becomes too much worn, we match the remaining one with one we've taken from a front wheel.

We depend on our drivers pretty much to do what they are expected to do, but occasionally we leave a note on the windshield, where they can't escape it, reminding them to see if there is a wheel or bolt loose, to have a look at the air pressure

and to remember to replace all valve caps. We consider the latter very important. We carry 10 pounds more air pressure than we are supposed to. The manufacturers recommend 70 pounds of pressure, but we put in 80. It saves money, by making less wear on the tires and by carrying the load better. If the driver finds a slow leak, he reports it at his headquarters on a form provided for that purpose. If the pressure drops 10 pounds or more in a day, the driver reports it. In such case there is usually a small nail in the tire or some similar trouble.

Our drivers do not "bleed" tires. That is one of the worst things that can be done to a tire.

We check tires about every other day. We have one tube vulcanizer, but the balance of our work we send out, in batches of 30 to 40 at a time. We keep 50 or more extra tires on hand, so we can let those needing repair accumulate. We use very small patches for small nail holes or slight injuries, but no boots nor reliners.

We are careful to have our wheels properly aligned and the brakes adjusted and relined. We pull them at least every season.

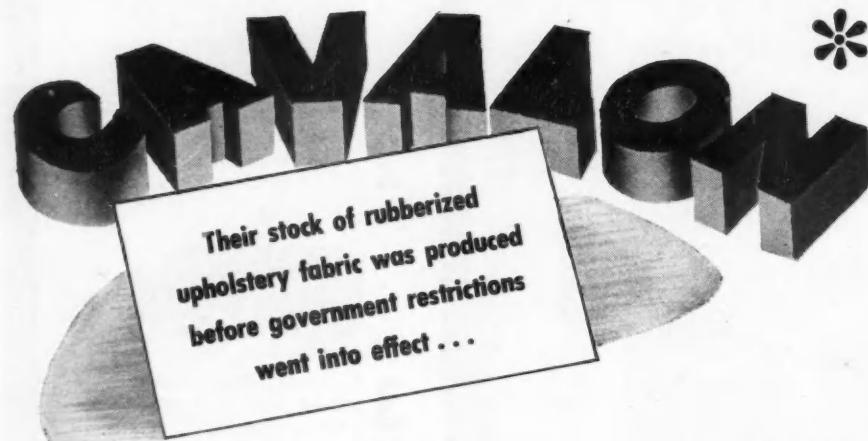
We make no special effort to achieve temperature control. We use radiator covers on all diesels, but not others. It is not necessary in this climate, though it is some use in a cold climate. Besides, our trucks usually are on long trips and they quickly get up to proper temperature and stay up.

The way we get gasoline economy is by keeping the carburetor in efficient condition. We time our ignition mainly to the manufacturer's recommendations. The lowering of octane ratings in gasoline has not caused us to readjust our spark to eliminate pinging, because we have not been bothered with pinging. We have had a slight drop in mileage, but I can't say how much. We have had minor spark-plug troubles and found minor adjustment necessary in some of our carburetors.

We have done some experimenting with crankcase oils. Formerly we used a heavier oil. Now we have changed to a medium oil, for we were inclined, with the heavier oil, to let the engines get by without reboring. Now we have to check

(TURN TO PAGE 96, PLEASE)

MANY DISTRIBUTORS STILL HAVE A SUPPLY OF



AS YOU KNOW, both crude and reclaimed rubber have been almost entirely diverted to the war effort, which excludes the manufacture of rubberized upholstery fabrics for civilian purposes.

But while we are no longer making "Cavalon" for civilian use, most distributors still have substantial quantities of "Cavalon" in stock . . . "Cavalon" made before restrictions went into effect. So if you have a heavy-duty upholstering problem, see your distributor. Chances are he may be able to help you out.

After the war is won, Du Pont will again renew its manufacture of "Cavalon." And Du Pont research in this field will again be applied to the renewed development of "Better Things for Better Living . . . Through Chemistry."

Your shop or upholsterer will get rapid, dependable service from these authorized CAVALON distributors:

ALBANY, N. Y....Edw. E. Davis Co., Inc., 481-83 Central Ave.
BIRMINGHAM, ALA....Spradling Supply Co., 121 So. 20th Street
BOSTON, MASS.....David Shapiro Co., Inc., 342 Commonwealth Ave.
CLEVELAND, OHIO, The Ingraham Supply Co., 575 Broadway Ave.
DALLAS, TEXAS....Padgett Brothers Co., 1028 Commerce St.
DENVER, COLO.....A. G. Seaver, 1855 Welton Street
FORT WORTH, TEX., M. G. Davis Supply Co., 608-614 Commerce St.
HOUSTON, TEXAS.....Stewart & Stevenson Distributing Co., 1719 Preston Ave.
KANSAS CITY, MO....C. R. Coffey Company, Inc., 1608 Oak St.
KNOXVILLE, TENN....R. T. Clapp Co., 401-407 N. Broadway
LOS ANGELES, CALIF....Lindsey & Hall, 1036 So. Hope St.
MILWAUKEE, WIS.....Gothardt, Inc., 213 N. Broadway

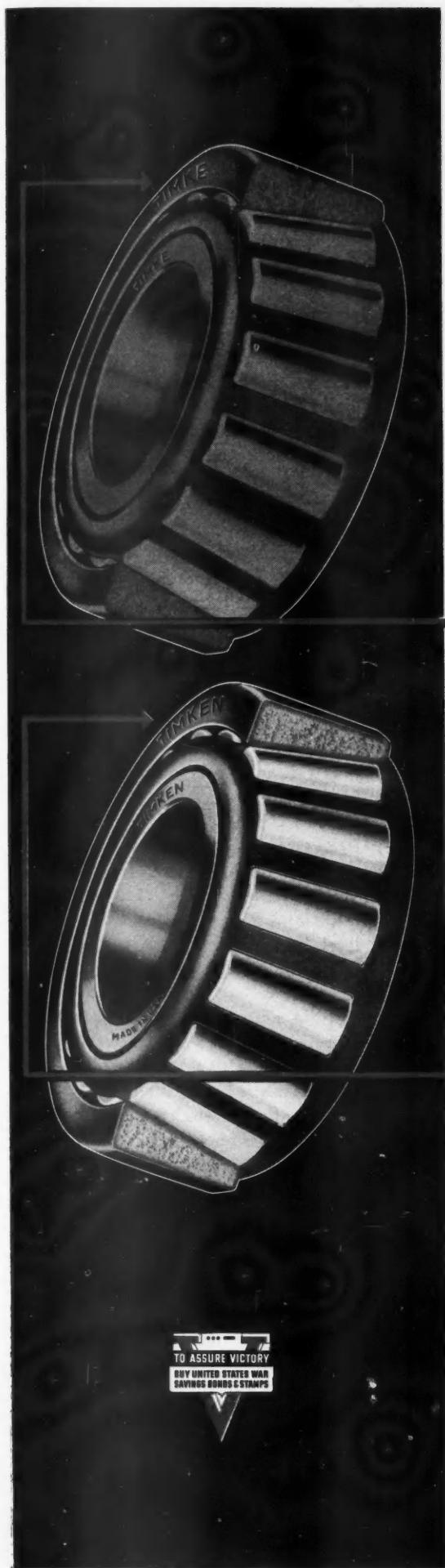
NEW YORK, N. Y.....Fabric Leather Corp., 6-8 West 32nd St.
NEW YORK, N. Y., Specialty Auto Fabrics Corp., 229 W. 58th St.
OKLAHOMA CITY, OKLA.....M. G. Davis Supply Co.,
801-803 N. Hudson St.
PITTSBURGH, PA.....Peiger, McCaw Co., 318-20 First Ave.
PORTLAND, ORE....Perfet Fire Mfg. Co., 606 S. E. Madison St.
RICHMOND, VA., Benj. T. Crump Co., Inc., 1310 E. Franklin St.
SAN FRANCISCO, CALIF., Scovel & Sons Company, 1133 Post St.
SEATTLE, WASH.....Automobile Trimmers Supply Co.,
1424 Tenth Ave.
SPRINGFIELD, MASS.....Jefferson Auto Specialties, Inc.,
104 Carew St.
TULSA, OKLA.Tulsa Trimmers Supply Co., 1325 E. Sixth St.
WORCESTER, MASS., Jefferson Auto Specialties, Inc., 399 Park Ave.

*"Cavalon" is Du Pont's registered trade mark designating its rubberized upholstery fabric.



CAVALON

E. I. DU PONT DE NEMOURS & COMPANY, (INC.)
"FABRIKOID" DIVISION • FAIRFIELD, CONN.



If the bearings you make for your planes and ships are no better than this metallurgically-and-geometrically defective bearing that you Japs were sending into this country a few years ago—

and which with your characteristic love for imitation and cheating you were trying to sell under the trade name of "TIMKE" (excuse, please, for forgetting the last letter N)—

Well—if your bearings are no better than that, it's easy to see why U.S.A. fighting planes and ships are knocking yours to pieces all the way from Alaska to Australia. You see, Japs, U.S. planes and ships are equipped with real TIMKEN Bearings—made in U.S.A.

One thing you missed, Japs, (with your poor imitation that you had the effrontery to call a TIMKE) was that it takes the combined skill of American workmen, engineers, and management—plus years of intelligent experience—to produce a watch-like precision instrument like a real AMERICAN-MADE TIMKEN BEARING. That's why Timken Bearings are so successful in keeping our planes and tanks and ships and guns rolling toward Tokio. We'll be seeing you there.

THE TIMKEN ROLLER BEARING COMPANY • CANTON, OHIO



TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS

(CONTINUED FROM PAGE 94)
more accurately on the need for reborning and as a result we get better mileage.

We salvage everything that sound economy warrants, depending on replacement cost and salvagability of the article. If it costs more to salvage than to install a new part, of course we put in a new one. Before the war we disposed of certain unusable parts through an agreement with a junk man, whereby we traded him some of ours for certain

things we could use which he had picked up elsewhere. The heavier stuff we sold to scrap companies. We salvage our axles and wheels by arc welding, machining them back to size again. Our metal spraying is primarily on crank shafts. We use acetylene on fenders, the sheet metal on bodies, etc. Our reason for using these different methods is merely the adaptability of the method to the part in question. We salvage our wheels by building up the bearing seats. It costs us about \$10 on al-

most any wheel. A new wheel goes up as high as \$45. The average salvage job runs about 20 per cent of the cost of new parts, so we save about four-fifths, although it is higher on some and lower on others. The performance of salvaged parts is at least equal to that of new parts and sometimes even better, because it increases the surface hardness and thus makes better wearing quality.

We rebuild all of these complete units: bodies, cabs, engines, transmissions, rear axles, radiators, fuel pumps, carburetors and distributors, and all in our own plant. We rebuild, if possible, from salvaged materials; if not, then from new parts.

We check the crankcase oil level not only every time the gas tank is refilled, but usually also several times in between. We change the oil in crankcases of engines equipped with oil filters and those not so equipped at the same time—1000 miles for each. We use a special type of crankcase oil for diesels, but not otherwise. The viscosity of our crankcase oil is the same both summer and winter, around 30. We reclaim the crankcase oil drainage, taking it to a commercial reclaimer. More than 80 per cent of the drained oil is reclaimed, although it varies. It costs us about 20 cents per gallon, or about one-third the original cost. We use the reclaimed oil both for refills and for adding to bring up the level in the crankcase, because it is as good as new oil. We keep a record of oil consumption and oil costs in our daily record of cost of everything. We get between 250 and 300 miles per quart of oil.

The use of oil filters has materially affected engine performance, as the engine operates better and for a longer period. It also has cut down maintenance costs materially, although I don't know just how much. We use a replaceable-element type filter. We clean filters and replace cartridges both at 1000 miles. We buy our cartridges.

END

(Please resume your reading on P. 40)

Hendershot Advertising Manager

The Rogers Diesel & Aircraft Corp. has announced the appointment of Norman J. Hendershot as advertising manager. Previously Mr. Hendershot was advertising manager of the Royal Typewriter Co. He replaced Chas. D. Cavett who has gone to Pathé News.



OPACO

SAFETY-FILL
Patents Pending
NOZZLE

SAVES { **GAS
TIME
MONEY**

by shutting off automatically when tank is filled

FLEET OPERATORS can now get "Safety-Fill" Nozzles. Prevent spilling and wasting of gasoline . . . speed up servicing by equipping your pumps with "Safety-Fill" Nozzles.

SHUTS OFF AUTOMATICALLY when gas in the tank reaches the tip of the nozzle. This eliminates overflowing and wasting gasoline.

REDUCES FIRE HAZARD — Gasoline spilled on or around a truck endangers equipment which can't be replaced. "Safety-Fills" avoid this danger.

Fill in - Tear out - Mail Today!

OPACO DIVISION,
AMERICAN MACHINE AND METALS, Inc.
East Moline, Illinois

Please send me FREE Bulletin and latest prices on OPACO Safety-Fill NOZZLES.

Name _____

Address _____

City _____ State _____



OPACO

DIVISION

AMERICAN MACHINE AND METALS, INC.

EAST MOLINE, ILLINOIS

Good!
-Today-and Tomorrow too!



Willard
SAFETY-FILL

COMMERCIAL BATTERIES

-have the power to carry on!

**The QUALITY "BUY"
for the duration**

Willard Commercial Batteries are engineered **SPECIFICALLY** for service in commercial vehicles of all kinds—from light delivery trucks to heavy duty trucks, buses and tractors.

Built with thick, heavy plates and strong, rugged containers. Ample sediment space. Dual insulation.

Exclusive "Safety-Fill" construction prevents overfilling and corrosion, keeps dirt from clogging vents.

Get a Willard now—Good Today
and Tomorrow too!

WILLARD STORAGE BATTERY CO. • CLEVELAND • LOS ANGELES • DALLAS • TORONTO

UNLIMITED PARTS SAL- VAGE—THAT'S U.P.S.

(CONTINUED FROM PAGE 30)

A recent example of salvaging was the conversion of an old and uneconomical package delivery truck to a badly needed modern furniture truck. Of course, past experience with building new cars and rebuilding old ones provided the necessary background of skill for their mechanics to meet the problems of this

conversion job. The main problem was to secure a good used chassis for conversion as new ones were unobtainable. In studying the outmoded cars of the fleet one was found that had outlived its economical usefulness and was ready for the junk pile. This particular vehicle was heavy for the type of service it performed, yet this same heavy construction, which made it undesirable for package delivery, was ideal for the type of body they planned to build. The car was trans-

ferred to the main UPS shop in Long Island City, N. Y., where a group of mechanics, selected from the regular shop staff, went to work on the conversion job under the direction of Ralph M. Werner, one of the company automotive engineers.

The old package body was removed and the chassis cleaned. The rebuilding began with the steel under-body construction which also served as frame re-enforcement. New felloe bands for dual wheels were welded onto the old spokes. The controls were moved forward in conformance with modern design of c.o.e. jobs. The steering mechanism was placed ahead of the engine and radiator and a remote control arrangement for gear shifting devised. The shifting lever, in its new position, operates exactly as before the change except that the reverse position catch had to be eliminated. Moving the controls forward made it possible to mount a 17½-ft. body where an eight footer had been, without altering the wheelbase or increasing the turning radius.

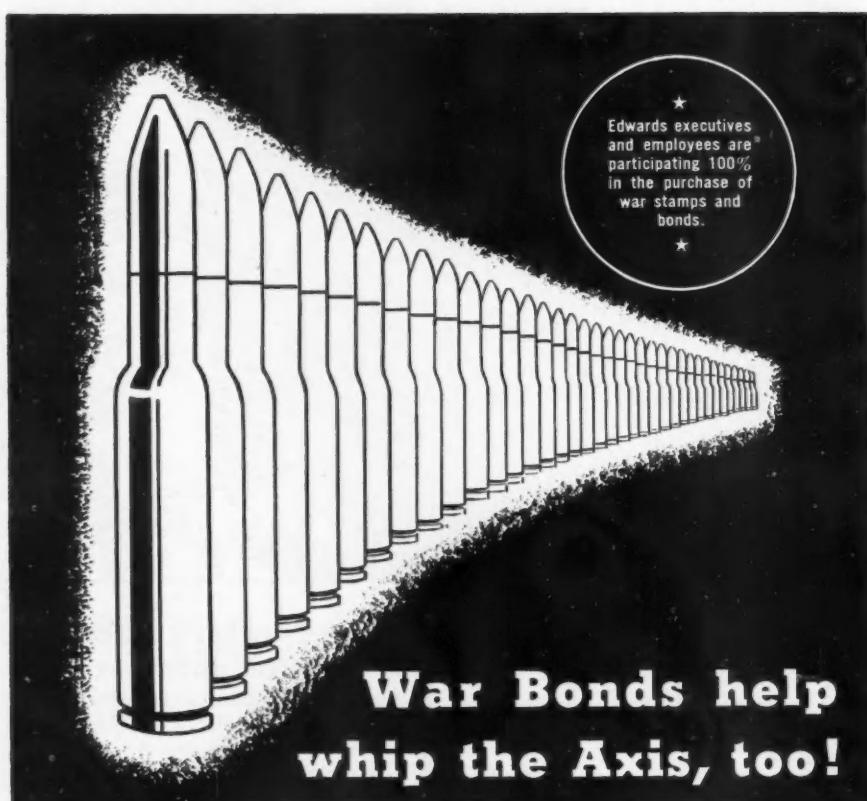
The engine power was increased by milling the cylinder head down 1/32 in. to raise the compression and a new carburetor was installed for better performance and improved fuel economy. The steel plates covering the dual wheels were so located that when the flooring was laid the interior presented a completely flat surface.

The body was designed with space at side and rear under the floor to carry odd-shaped pieces of furniture and rugs. A chute-like compartment 15 feet long was provided under the length of the floor for carrying rugs, as shown in the accompanying photographs. A compartment above the cab accommodates fragile merchandise. Sliding doors designed by Ralph Werner to work on a hinging principle were installed on the right side.

On completion, the vehicle was given a 200-mile road test to study its steering and riding qualities which proved highly satisfactory. An innovation of interest is the long strip of angle iron located near the crown of the top to protect the roof from tree damage.

In building this conversion every effort was made to use salvaged ma-

(TURN TO PAGE 100, PLEASE)



THERE IS ONLY ONE WAY we at Edwards know of to insure a victorious America. That is to back up our fighting men by producing whatever is needed to the best of our ability . . .

and never forgetting that U. S. War Savings Stamps and Bonds battle, too. We're buying them. How about you?

Edwards is building a number of things besides trailers that Uncle Sam needs. And it is still building trailers according to needs and priorities.



EDWARDS TRAILERS

EDWARDS IRON WORKS, INC. SOUTH BEND, INDIANA



These Husky RUSCO Blocks

Didn't (*LIKE TOPSY*)

"Just Grow"

Once in a great while a novice produces a masterpiece. But that doesn't often happen. Most generally, outstanding achievement springs from long and skilled experience. A mighty pat example is the development of RUSCO Brake Blocks.

Way back in 1918, RUSCO experts developed, tested and perfected the original moulded brake lining for the most grueling service of those times. That was the famous RUSCO "Durak."

But progress is swift-paced. Today's triumph is outmoded by tomorrow's needs. Through the years buses, trucks, grew weightier, loads heavier, schedules swifter. Again RUSCO called upon its experience and its time-tested skill.

The result is today's Samson-strong RUSCO Fused Blocks . . . the last word in dependable perfection wherever giant trucks, buses, must haul their burly wartime cargoes.

Hand in hand with these in outstanding performance and long wear is RUSCO'S complete line of patented fused-fabric clutch facings, long the choice of car and truck manufacturers. (Proof of the unmatched merit of these clutch facings will be sent upon request.)

Thus, if you operate trucks, trucks and trailers, or great, heavy-duty fleets, it will pay you to equip them for maximum performance this RUSCO way. Then you, too, will know, as do tens of thousands of other RUSCO product users, just how much, especially these days, RUSCO experience does count in the long run.

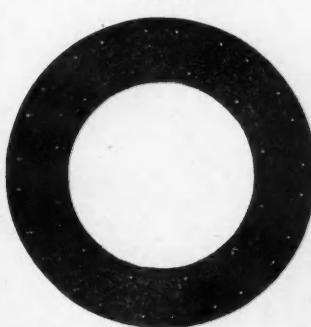
See Your Jobber for RUSCO Bus and Truck Linings, Facings and Blocks.

"KEEP 'EM ROLLING . . . WITH RUSCO."

THE RUSSELL MANUFACTURING COMPANY
Middletown, Connecticut



Out of the experience of developing RUSCO "Durak," we perfected these super-strong, heavy-duty RUSCO Blocks.



RUSCO Fused Fabric Clutch Facings long have held the preference of car and truck manufacturers.

UNLIMITED PARTS SALE VAGE—THAT'S U.P.S.

(CONTINUED FROM PAGE 98)

terials. The actual cost of the initial experimental conversion was immaterial under the circumstances as the object was to replace an outmoded vehicle with a practical and necessary one that could not be replaced in the normal way.

Considerable salvaging on a smaller scale of various car parts is

constantly being done. A recent example of an expedient salvage job helped solve a problem probably confronting every fleet. It concerned the use of small tires, removed from vehicles out of service, on trucks with larger wheels. The need became evident when a survey was made of the fleet and reduced tire stock to see what rubber was available and could be used to best advantage. The manner in which the survey was conducted was described in the August issue of

COMMERCIAL CAR JOURNAL. It served as a guide in the assignment of vehicles so that tires of all sizes in stock would last about the same length of time. Altering the wheels, on certain vehicles, made possible the use of available tires which were obsolete in UPS service, thus lengthening their service life.

These 7.00/18 tires salvaged from obsolete vehicles were switched to ones normally equipped with 6.50/20's. In order to use the 18-in. tires, a number of 20-in. wheels were cut down on the lathe to the proper size and the old 18-in. rims welded to them. Then the edges of the drums were turned down on a lathe to provide clearance. Of course, this was done on vehicles assigned to short city routes where brake drums would have little opportunity to overheat to the extent that they would on long heavy hauls. This factor is important because with the 18-in. rims there is very little clearance between rim and brake drum. UPS considers this a major salvaging operation, because it permitted the use of needed tires on important routes; tires which might otherwise have been disposed of at a loss.

Everything is salvaged, including the old decking used on the upper half of UPS car bodies. This old decking has served in certain instances as excellent blackout material. Rear curtain material is salvaged by sewing together the good parts of several torn curtains to make a new one. Every piece of rubber or part containing rubber is salvaged. All UPS garages are instructed to save rubber and metal scrap which is useful in their own maintenance program but not to hoard such materials for which there is no apparent use. During the recent drive for scrap rubber, a substantial number of useless tires and tubes were disposed of, together with a considerable amount of miscellaneous rubber scrap.

Whenever a vehicle is junked, every possible usable part is saved. United Parcel Service has a standard list of parts to be salvaged. These include; tires, rims, batteries and cables to be rebuilt as previously described; side decking to be used for patching panels or for blackout curtains; mirrors, horns, windshield wipers, wire, chains, distributor caps,

(TURN TO PAGE 102, PLEASE)

NO TRUCK HAS EVER OUTLASTED A GALION HYDRAULIC DUMP BODY

See what we mean when we say

GALIONS HAVE STAMINA!

MY GALIONS HAVE WORKED ON THESE DEFENSE PROJECTS

	Number of Trucks
Training Camps	3
Airports	3
Factories	3
Conservation	3
Highways	3
Mining	3
Benson Dam	3

Dependability, ruggedness, power and trouble-free service characterize Galion Hydraulic Dump Bodies.

TESTIMONIAL
Each have outlasted 3 new trucks
Couldn't expect any better service.

NAME — LEE W. DECKARD
ADDRESS — Box 22
CITY — WHITESBORO - STATE TEXAS

THE GALION ALLSTEEL BODY COMPANY, GALION, OHIO, U. S. A.

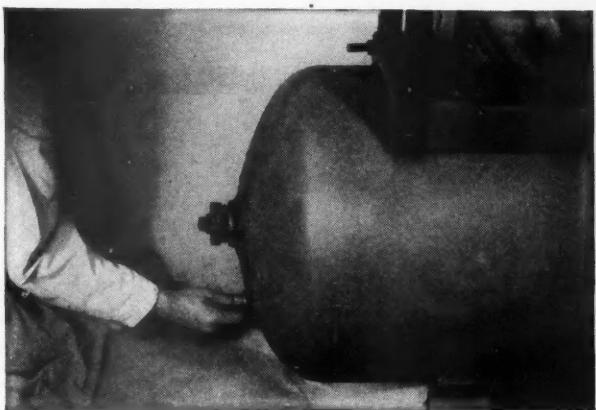
DON'T LET NEGLECT SABOTAGE YOUR VITAL LUBRICATION EQUIPMENT!

**These Five Simple Precautions
Can Add Years to the Life of
Pneumatic Grease Guns!**



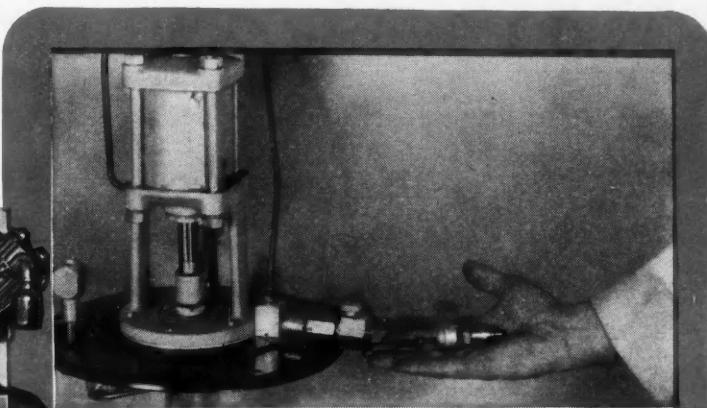
1 MOISTURE OR GRIT NEAR COMPRESSOR MEANS NEEDLESS WEAR ON YOUR PUMP!

Air compressors should be placed where air is clean and dry. Avoid basements, other damp places, or location near a grinder or other source of dust and grit. Moisture and foreign particles damage pump, cause trouble.



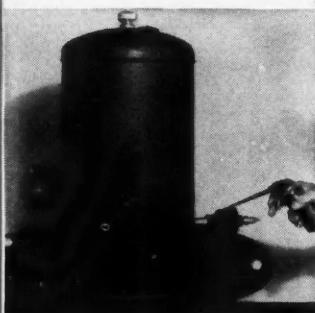
2 TANK SHOULD BE DRAINED WEEKLY!

Condensation in the air line cuts leather, scores cylinder, and causes deterioration of hose. Air tank should be drained at least once a week! A petcock is provided for this purpose. This task takes little time, saves much trouble.



3 CLEAN FILTER SCREEN EVERY MONTH!

There is a filter screen at the oiler in most air-operated pumps. This should be cleaned every month, or oftener, to avoid having foreign particles clog the air inlet. Ample air volume at all times is essential to efficient performance. (Be sure your air lines are of sufficient size for your needs.)



4 OIL YOUR PUMP EVERY DAY!

Your air-operated grease pump requires regular lubrication, just as any other machine does. Oil it every day with a medium grade of oil—to insure longer life, to preserve couplers and air valves.

5 CHECK OFTEN FOR AIR LEAKS!

Compressed air is a commodity not to be wasted. Wasted air pressure is wasted power. Audible leaks may require reseating air valve, replacing gaskets or cup leathers to correct sluggish performance of air-operated equipment.



Alemite engineers want to help you get the most out of your vital lubrication equipment. Write to us about any maintenance, repair, or service problem. There is no obligation!



Ask Anyone in Industry!

ALEMITE
REG U.S. PAT. OFF.
Industrial LUBRICATION

1876 Diversey Parkway, Chicago, Illinois • Belleville, Ontario

Another Product of
**STEWART
WARNER**


UNLIMITED PARTS SALVAGE—THAT'S U.P.S.

(CONTINUED FROM PAGE 100)

all other electrical equipment including starters, generators and magnetos, gas lines, spark plugs, reflectors, head lamps, tail lamps and tail curtains. Many radiators are salvaged for copper tubing and cores as it is anticipated that cores will be difficult to get. All car seats are salvaged by

rebuilding seat frames and recovering.

On the whole, UPS shop men have more repair and rebuilding work to do now than ever before because of salvaging efforts. Cost of salvage is now a secondary factor. Under present conditions, anything that a fleet operator can do to conserve vital parts and materials is a valuable contribution to the war effort.

END

(Please resume your reading on P.31)

DAIRY REBUILDS CREAM OF ITS FLEET

(CONTINUED FROM PAGE 35)

and the balance on hand. This record sheet not only gives us the valuation of the parts on hand, but also gives us a record of the amount of parts issued to each truck.

Through this system of parts records, we have found certain types and makes of various accessories, such as wiper arms, blades, mirrors, etc., unsuited for our equipment. This has been shown through the continuous charging out of these parts. Investigation and substitutions of different makes and types have eliminated these frequent replacements, thereby reducing costs.

The following is the outline of our Preventive Maintenance Program:

When the drivers return their trucks to the garage each day, the trucks are gassed, oil-checked and lubricated, if due. Tires are checked twice a week and batteries are checked once a week.

The driver fills out a daily report card, Fig. 2, if he feels that any repairs are needed to the truck. If the mechanic cannot complete the repairs on that day, the truck is then put into the shop for completion the next day. The driver is given a relief truck to use while his truck is being repaired. We have three wholesale and three retail trucks which we use for relief work.

All gas and oil supplied to each truck is entered on a daily sheet, Fig. 3, together with the truck number and mileage. This daily record of gasoline and oil for each truck is then transferred at the end of each day to a monthly cost sheet, Fig. 4.

This cost sheet lists gasoline, oil, lubrication, tire cost, garage labor, chassis labor and material, body labor and material, outside labor and material, fixed charges and depreciation. By a glance at this sheet we are able to tell the exact miles per gallon, operating cost per mile, average cost per mile and average cost per unit of each truck. Each month a summary record is made from this sheet showing the entire cost of operating both the wholesale and retail fleets. This record, Tables I and II, is then sent to the office.

The Preventive Maintenance sched-
(TURN TO PAGE 104, PLEASE)

This Speed Wash Brush Cuts Washing Time in Half

DOES A BETTER JOB AND SAVES THE FINISH

Durable protective bumper all around the edge.



Speed-Wash fountain brushes are used in scores of commercial fields. Users include: Southwestern Greyhound Lines, Kroger Grocery and Baking Co., Shell Oil Co., Coca Cola Co., United Parcel Service.



Tufts are hand drawn with rust proof wire.

Connects with any standard size hose coupling.



Eight evenly spaced jets provide a steady stream of clean water.



Brush is easily detachable from handle, economical to renew.

ADDING the Speed-Wash to your washing equipment is like hiring another man — WITHOUT PAY.

It's an actual fact, proved in hundreds of cases, that the Speed-Wash cuts wash job time between 40 and 60 per cent. Here's the reason: One man does the complete work of soaking, scrubbing and rinsing in ONE operation — without changing tools and without interruption. The ease with which these three jobs are done together allows the Speed-Wash to be a man-sized tool, cleaning a 12" path with each stroke.

Unique Construction For Faster, Better Work and Longer Life

The Speed-Wash fountain brush is made with first quality horsehair tufts that are hand drawn into the block with rust proof wire. They cannot come out or come loose. Eight evenly spaced jets provide a steady stream of clean, fresh water. Tufts are always clean and free from grit. Sturdy bumper protects against marring finish. Brush is detachable from the handle and renewable at low cost. Handle is an electric-welded steel tube which weighs about the same as aluminum. Handle socket is at one end and standard hose connection at the other.

Order today. Priority rating of A-10 or better will insure prompt delivery. Send check or money order to . . .

MILWAUKEE DUSTLESS BRUSH CO.
526 N. 22ND STREET
MILWAUKEE, WIS.

\$9.45

Post Paid if cash
accompanies
order.

**SAFE TRANSPORTATION is ESSENTIAL
for war workers, and for the delivery of
materials required to fill war contracts**



Wagner CoMaX Brake Lining contributes to safer transportation—and helps make cars and trucks last longer

THE superior quality of CoMaX shows up in many ways which are very important during this war period. For example, CoMaX has proved to be unsurpassed for quick, safe, smooth stops. This is a great aid to the safe transportation of many war workers, and for the delivery of materials required to fill war contracts.

Then, too, CoMaX is long-lived. This means thousands of extra miles before replacement is necessary—and less frequent replacements mean

more lining immediately available for war needs.

Other CoMaX features include reinforced backing which permits deep seating of rivets and extends the period of safe usefulness, it is non-compressible, uniform in texture, easy on drums, and is age-proof.

To sum it up—Wagner CoMaX is the answer to the demand for a dependable and high-quality brake lining . . . available in rolls, sets, blocks, and slabs.

Ask your jobber, or write us for latest catalog and prices covering complete line.

AUTOMOTIVE PARTS DIVISION **Wagner Electric Corporation** SAINT LOUIS, MO.
U. S. A. B42-15
HYDRAULIC BRAKE PARTS & FLUID...AIR BRAKES...BRAKE LINING...CLUTCH FACINGS

DAIRY REBUILDS CREAM OF ITS FLEET

(CONTINUED FROM PAGE 102)

ule, Fig. 5, is performed every six weeks on each truck. It consists of a complete check of engine, cooling system, front end and steering, drive shaft and rear end, transmission, wheels and brakes, body and a road test. This complete inspection takes wholesale and three retail trucks one man about 4 hours to check and make adjustments.

If the mechanic making the inspection finds that major repairs are needed, he marks an X beside the item, and on the reverse side of the sheet he enters the item with a complete explanation of the work necessary to be done. Then the truck is put into the shop as soon as possible for the repairs to be made and minor repairs and adjustments are made during check-up.

If it is found necessary at the inspection to reline the brakes, we send the shoes out for relining, and have

the drums trued up at the same time. This has proved less expensive than doing the work in our own shop. A reline job lasts us about 25,000 miles.

Lubrication is done once a month, if monthly mileage is under 1200. However, if it runs over this figure, then the truck is lubricated twice a month. Oil is changed every 3,000 to 4,000 miles, at which time the oil filter is also changed. We use an additive to the amount of 5 per cent to the oil, which has reduced sludge and eliminated the trouble that we were having with sticking valves and rings.

When a truck begins regularly to consume more than one quart of oil a day, without leaking, that is the determining factor for a motor overhaul. The overhaul consists of installing new rings, pins, main and rod bearings if needed, a carbon and valve job, and a complete motor tune-up. The pistons are sent out to be koetherized and tin-plated. New valve springs are always used whenever we do a carbon and valve job. We average about 30 motor overhauls a year. If it is found necessary to regrind the crankshaft to fit undersize bearings, this is done with the motor in the chassis, in cases where no more than one or two crankpins need grinding. If more than two crankpins need grinding, then the motor is pulled out, crankshaft is removed and sent out for grinding.

It is generally necessary to rebore at about 50,000 miles. The block is sent out to be rebored, then we fit new pistons, pins, rings and bearings, timing gears, etc., and follow with a carbon and valve job and a complete motor tune-up. About 10 rebore jobs are done each year.

Every effort has been made to reclaim and salvage any parts that we can, also to conserve and make full use of the equipment we have. When fan pulleys become worn, we braze the hub with brass, and then bore it out to the proper size. Brake cams which become worn are welded, using No. 7 steel rod. When positive battery cables become corroded and fail, we salvage the good part of the cable, put new terminals on and use it as a ground strap. When fan belts stretch so that it is not possible to secure any more adjustment at the generator, we replace the generator adjusting strap

(TURN TO PAGE 106, PLEASE)

Improve the speed and accuracy of your anti-freeze testing with **IMPERIAL** **SINGLE SOLUTION FREEZETESTERS**

YOU cannot buy faster, more accurate instruments for testing one type of anti-freeze than these Imperial "K" single solution testers.

They have the same high quality and sound engineering which make all Imperial "K" testers leaders in accuracy and ease of use.

The fine calibrations of the float and close graduations of the thermometer give precision results not ordinarily obtainable with commercial instruments.

All readings—float, thermometer and protection points—are made with the tester in its natural, vertical position.

Thermometer scale and correction chart are sealed in the jar and are easy to read at all times. Neither dirt nor radiator solution can reach them.

Liquid thermometer contacts radiator solution instantly, giving quick, reliable readings.

Has extra heavy annealed jar . . . Float is beaded to prevent sticking . . . Tip has non-roll, hex-shape base, 15" hose.

No. 548 Freezester	Net price to Fleet Owner
for "Prestone" Brand Ethylene Glycol.....	\$1.65
No. 549-T Freezester for "Zerex"	1.65
No. 551-T Freezester for Alcohol.....	1.65
No. 552-T Freezester for "Zerene"	1.65

If you are not standardized on anti-freezes, you will want the Imperial "K" Universal Freezester. It will not only test over 100 anti-freezes, but it is the simplest, most practical, easiest-read universal tester on the market.

No. 546-T Universal Freezester. Net price to Fleet Owner, only..... \$3.45

THE IMPERIAL BRASS MFG. CO.
1209 W. Harrison St., Chicago, Ill.

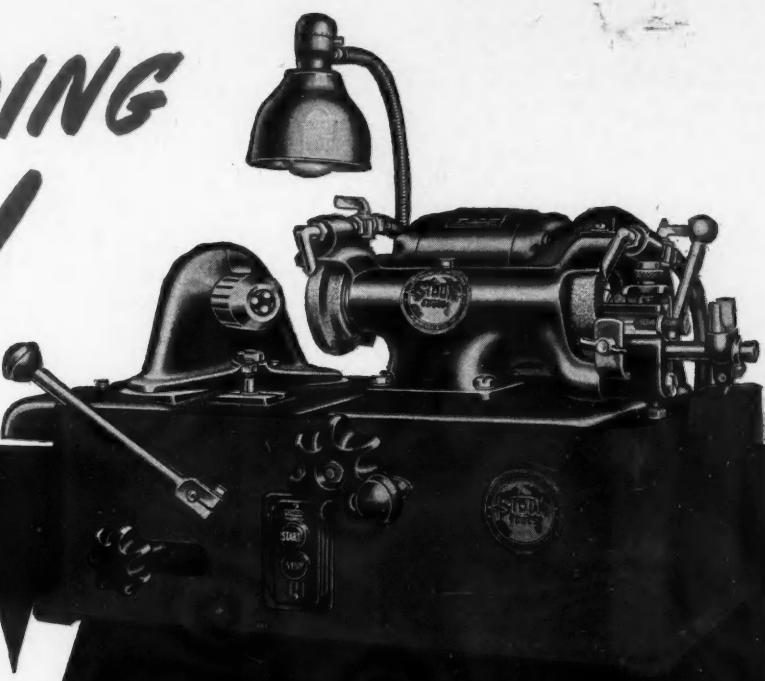
Bulletin No. 326 covers the complete line of Imperial Freezesters.

Write for your copy

IMPERIAL

Automotive Products

**WET GRINDING
BUILT IN!**



SIOUX VALVE FACE GRINDING MACHINE **WET GRINDER**

Designed and built from the base up for wet grinding—the neatest, most compact, most complete, most efficient machine of its kind yet developed.

Makes it easy, quick and economical to produce the finest finish and factory precision in wet grinding valves, Ford valve tappets, and Ford valve stem ends. Chucking capacity $\frac{1}{4}$ " to $\frac{5}{8}$ " diameter.

It eliminates heat and distortion and reduces wheel dressing to a minimum.

Number 655 includes resilient-mounted $\frac{1}{3}$ H. P. motor, positive and smooth Vee Belt Drive, automatic chuck stop, ball-bearing grinding head, 3-quart coolant tank, perfected Sioux Roller Chucking System and other equipment.

ASK YOUR JOBBER'S SALESMAN

**STANDARD THE
ALBERTSON & CO., INC.**



**WORLD OVER
SIOUX CITY, IOWA, U. S. A.**

DAIRY REBUILDS CREAM OF ITS FLEET

(CONTINUED FROM PAGE 104)

with a piece 1½ inch longer. This increases the range of adjustment and allows us to use the old belt for a considerably longer period of time. We make new ends on broken Divco speedometer cables and use them in Fords. We also have made grille guards from ¼ x 1-inch flat steel for all our trucks. These have been a

great help in preventing damage to the grilles and represent a big saving to us now that grilles are scarce and hard to get at any price. Whenever a damaged body panel is removed, we salvage it and cut it to fit other jobs whenever possible.

We have built up 38 of our wholesale 1½-ton Ford trucks, to a 5-ton capacity, as follows: The wheelbase was increased from 158 inches to 168 inches by inserting a double channel frame extension, eliminating big overhang. Extra heavy-duty cradle

ride springs were installed, with the usual helper springs. Tires and rims were changed from 32 x 6 to 750/20. A heavy-duty bus type clutch assembly was installed. The 85-hp. engine was replaced with one developing 96 hp. Booster brakes and governors are installed.

Due to these changes it is possible to easily carry 156 cases of milk plus containers in these trucks. We have added a tail board to our small-bodied 126-case trucks, which enables us to carry 32 empty cases. This helps to increase the load of empties we can pick up, and also helps the drivers, because under the new ODT rules no second calls for empties can be made. These trucks have been in service long enough now to satisfy us with their cost of operation and maintenance.

Since tire rationing we have a schedule of two tire check-ups per week. We find that if we maintain the right tire pressure it helps to cut down our gasoline consumption and saves tires from internal bruises, as a soft tire increases the friction on the driving surface, and thereby increases gasoline consumption. Puncture proof tubes are used in all our retail truck tires, and we have found that this has paid us, especially as it has cut down delays on our delivery routes.

All retail trucks carry their own spares, and drivers change any flats on the road. The wholesale trucks do not carry spares, and drivers must call in for a tire change. Drivers are not allowed to ride with one dual tire flat. When a call is received, one of the garage men is immediately dispatched with a spare wheel and tire assembly, and all necessary tools to make the change. On returning to the garage a record is made of this change, the flat tire repaired, and replaced as soon as possible on the truck it came off.

A record card (Fig. 6) is kept for each tire in service. All tires are branded with truck number and wheel position, showing the truck it is on, wheel position, date put on, date taken off, mileage on and off, total mileage received, and the costs of any repairs. (See illustration "H.") Recaps are used extensively, relying on the recappers' judgment whether or not a carcass is capable.

Every effort is being made to cut
(TURN TO PAGE 108, PLEASE)

MARQUETTE Gives You

LOW INITIAL COST

LOW UP-KEEP COST
No moving parts to wear out.

LOW OPERATION COST
Low idling cost.

SIMPLE OPERATION
No dials... No levers... No gadgets. A tap for every heat.
A heat for every job.

IMPROVED LOW-LOSS
TRANSFORMERS. With Automatic Voltage Control and All-Asbestos Insulation.

FAST, FLAWLESS WELDS

FIVE SUPERB MODELS
150 to 400 amperes.

Simplicity and ease of operation are foremost among the many outstanding features of MARQUETTE A. C. ARC WELDERS.

The clearly marked, multiple outlets of these versatile machines provide just the right heat for every job. There are no dials, levers or gadgets to confuse the operator. Built-in Automatic Voltage Control assures perfect welding current at every heat stage without the need of questionable manual adjustments. Faster, stronger and more uniform welding results.

You'll save time, money and critical war materials when you solve your metal fabrication and repair problems with the speed and economy of electric welding. Send for free, 24 page, illustrated booklet, TODAY.

MARQUETTE
MANUFACTURING
COMPANY, INC.
Minneapolis, Minnesota



MARQUETTE REG. U. S. PAT. OFF. A.C. ARC WELDERS

GEMMER STEERING GEARS

Compact power and endurance



THE Reconnaissance car, or "Jeep" is an amazing accomplishment in power, endurance and performance.

Gemmer Triple Roller Tooth Steering, too, is an outstanding achievement in endurance, power and efficiency without excess weight or bulk. Gemmer Gears endure for the life of the vehicle, providing the ultimate in steering control in the heaviest commercial, military, agricultural or industrial installation.

Gemmer Triple Roller Tooth Steering Gears have these all-important factors for desirable steering: **EFFICIENCY**—Highest available—provides easy steering always—plenty of power for parking. **STABILITY**—Steering is firm, response positive with absence of rubbery feeling and wander. **SAFETY**—Abundant safety factor—low internal stresses. **DURABILITY**—Endurance for the life of the vehicle. **CONVENIENCE**—Compact design for easy installation and weight saving, without sacrifice of overall capacity or steering arm angularity.

Gemmer Steering is playing an important part in the military vehicle program.



GEMMER MANUFACTURING COMPANY • 6400 Mt. Elliott Ave., Detroit, Mich.

DAIRY REBUILDS CREAM OF ITS FLEET

(CONTINUED FROM PAGE 106)

our gasoline consumption down. The drivers are instructed to conserve gasoline by careful driving, avoiding quick starts, and to shut off the motor when the trucks are left standing. All wholesale trucks are governed for 32-36 miles per hour; retail trucks, 30 mph. We completely disassemble and clean the carburetors at every

P.M. check-up. Our record sheet is checked each week to determine if any truck shows an excessive amount of gasoline being used. Then we give it a thorough test on the motor analyzer, and make any necessary adjustments or repairs to bring the gasoline consumption back to normal.

At the present time we are installing full-floating rear axles in our three-quarter-ton models to avoid broken axles, because the full-floating type is far more capable of trouble-

free operation, under stop-start conditions, than the three-quarter floating type. This results in less axle breakage and lower cost of operation.

We also are building up spare units, such as transmissions and rear axles for our retail units, to lessen time laid up in shop for repairs.

All our trucks are equipped with dual windshield wipers and mirrors, also reflectors, as safety measures and driver helps.

The bodies are equipped with adjustable bars to keep milk cases from shifting while stopping or starting.

Realizing the seriousness of the present situation, we are doing all we can to re-use and salvage every possible part. We are making closer and more frequent inspections of our equipment. In some cases, through minor changes, it has been possible to standardize on one type of part for both retail and wholesale trucks, such as changing the Divco starter circuit to the same type as the Ford, using interchangeable wipers, etc. This eventually will enable us to cut down our parts inventory, and we also hope it will eliminate time lost waiting for parts hard to get.

END

(Please resume your reading on P. 36)

New Lincoln Handbook

"Procedure Handbook of Arc Welding Design and Practice," seventh edition, is announced by the Lincoln Electric Co., Cleveland, Ohio.

It contains 1308 pages, 6 x 9 inches, 1810 illustrations, including photos and drawings. The cover is semi-flexible simulated leather, gold embossed. Price postpaid United States \$1.50 per copy, elsewhere \$2.00.

WEAVER Wheel Dolly

Lets One Man Pull and Replace
Wheels faster Than Two Men
Can Without it!



SPEEDS UP BRAKE AND TIRE SERVICE

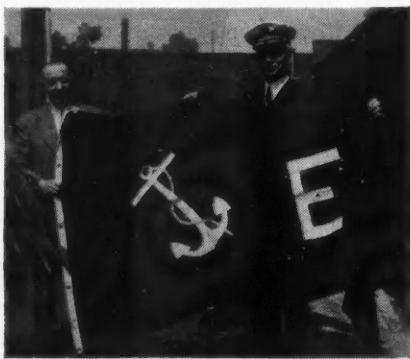
Join the U. S. Truck Conservation Corps. Display this decal on your windshields to show you are co-operating with Uncle Sam.



The Weaver Wheel Dolly saves vital time and manpower on all jobs requiring wheels to be pulled. One man can remove heavy dual or single wheels from the spindle, take them to the service department, and replace them. Wheels can be picked up off the floor and raised, by means of the screw jack on the Dolly, to exact spindle height.

See your jobber or write direct to

WEAVER MANUFACTURING CO.
SPRINGFIELD, ILLINOIS



James S. Allan, president of the Walker Mfg. Co., receiving the Navy "E" from Rear Admiral George H. Rock, USNR, retired, in behalf of the company's Walker-Michigan Division at Jackson, Mich.

HEADLINERS

... IN THIS LINE OF LIGHTING SATISFACTION

BRILLIANT VISIBILITY



TEARDROP STREAMLINING



K-D FLAT SURFACE MOUNTING LAMPS

No. 539 . . . Lists 58¢

No. 540 . . . Lists 78¢

● In the K-D line, the first consideration is ruggedness and dependability. Every lamp must have strength and extra long life. But K-D engineers don't stop there! They add beauty, too!

K-D safety lighting will cut down your lighting costs, save time and trouble . . . and

still improve the appearance of your equipment. Whatever your lighting need, take it to headquarters, your K-D Lamp Jobber. He knows lights and lighting requirements. He can show you the right light, for the right job at the right price.

THE K-D LAMP COMPANY, CINCINNATI, OHIO

K-D LIGHTING

*The Right Light
for the Right Job* **B**



Super-power 3' Plastic Reflector—over $\frac{1}{4}$ mile visibility. Smack-proof. Exceeds all requirements, approved for all military vehicles. Models 333-334 list 65c.



Comb. Clearance and Side Marker—Streamlined. Flat or curved surface models. No. 517 lists \$1.10.



Recessed Flush Mounting Lamp—3" semaphore lens. Well gasketed, moisture and dust proof. Model 520 lists \$1.05.



Armored Clearance-Marker Lamp—Blows glance off its special cast housing. Fresnel lens, lighthouse type, red or amber. 541 lists \$1.05.

METRO'S METHODS SAVE TIRES, GAS, ETC.

(CONTINUED FROM PAGE 43)

creased our tire conservation efforts. Several innovations in our tire program should prove of interest to other fleet operators. These innovations are tied in with our PM program.

PM with us today means not only preventive maintenance but personalized maintenance. We operate preventive maintenance on an individual

responsibility basis. An average of 25 trucks are assigned to one skilled mechanic. It is his responsibility to keep those trucks in good condition, make inspections and check all mechanical work done. If something is wrong with one of the trucks, it is that particular mechanic's responsibility. If a truck has excessive road calls, that mechanic must account for them. In other words, he must keep his trucks running and forestall road failures or take the consequences up to suspension or dismissal.

ROAD FAILURES TRUCK 2872

1938	18	1940	10
9-2	18	10-16	10
9-23	2	12-6	27
10-13	18	19-2	29
10-25	19	2-3	24
12-9	20	6-6	24
1939	24		
1-16	24		
2-1	24		
3-10	5		
11-7	12		
1940	24		
2-19	24		
7-5	21		
11-4	13		
1941	24		
6-4	24		
8-3	5		

EACH TYPE OF
FAILURE HAS
A NUMBER--
24 IS A "FLAT"
10 IS COOLING SYSTEM
5 IS FUEL PUMP
2 IS BATTERY
ETC.

RUGGED and DEPENDABLE HEAVY-DUTY TRUCKS from SMALLER UNITS

...and Uncle Sam Approves!



YOU NEED BIG-CAPACITY, HUSKY TRUCKS for today's jobs... but you can't buy standard equipment of this type now.

QUITE A PROBLEM? NO!

For years successful operators with tough, difficult, heavy-duty, on or off-the-highway hauling problems have saved time, money, men and material with

THORNTON Four-Rear-Wheel DRIVE

From coast to coast in the U.S.A. and in countries all over the world, 1½ to 3-ton trucks have been converted with THORNTON units into DURABLE, FLEXIBLE, HEAVY DUTY VEHICLES that out-pull, out-last and out-maneuver standard trucks costing double or more.

Put TWO driving axles under the load instead of one, double the gear speeds, better springing and load flotation, with vastly superior tractive ability... all of this for less money!

Government approval? Yes, up to now. But these things are subject to change... act quickly. Contact your nearest Truckstell-THORNTON dealer, or wire factory direct. Trained men will engineer this equipment to the requirements of YOUR PARTICULAR JOB.



THORNTON TANDEM CO.
8715-8779 GRINNELL AVE.

DETROIT, MICH.

Manufacturers also of the THORNTON automatic-locking DIFFERENTIAL
"When you need TRACTION you need THORNTON"

When a mechanic finds, during an inspection, that a truck needs major repair work, he schedules it for the repair shop with a job ticket stating what work he thinks should be done.

The major repair shop foreman double-checks to verify the original analysis. After the required work is done and inspected, and the truck returned to the PM mechanic to whom it is assigned, he, too, road tests and checks the repair work on the truck for efficiency. If the repair job was faulty and he permits the truck to go out, he must answer if an early failure results.

This procedure and concentration of responsibility is the basis of our PM program and applies to tire conservation and gasoline efficiency as well as to engine and parts maintenance. Thus, proper tire inflation is the PM mechanic's responsibility. Likewise it is his responsibility to rotate tires, to check front-ends, watch for cuts and bruises and keep brakes operating properly.

In preparation for an intensified tire conservation program, we made a detailed study of each client's routes to see if we were operating vehicles of sufficient capacity on each route, or overloading. We had to watch for this possibility, particularly after the ODT's Orders. It is poor practice to overload tires; better to provide a larger tire size or truck. We also intensified our tire conservation efforts at driver meetings. We insist that drivers start and stop slowly, take corners slowly, do not brake quickly, avoid bouncing tires against curbs or across tracks and deep ruts, and avoid curb scuffing.

Badly damaged tires are shown at meetings and the driver is required (TURN TO PAGE 112, PLEASE)



SKF
BALL AND ROLLER
BEARINGS

"Mount

'em RIGHT to LAST!"

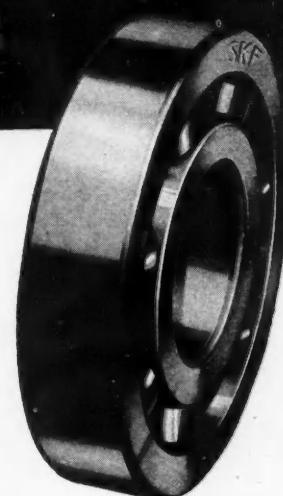
There's no question in this old-timer's mind when it comes to installing an SKF Bearing. He cheats dirt by doing his work with *clean hands*, and *clean tools* on *clean paper*, and mounting the inner race squarely on the shaft seat by applying force directly against the side of the inner race with an arbor press or by tapping the end of a steel tube which is in contact with the inner race . . . or a hammer against the outer race. He knows better than to use a chisel against the *inner race* . . . or a hammer against the *outer race*. He knows he shouldn't use any more force on the outer race than can be exerted by hand because pounding invariably produces ball denting in the grooves. The bearings on your fleet will last longer if your mechanics know these things, too.

5113

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILADELPHIA, PA.

SEPTEMBER, 1942

Use postage-paid card inserted in this issue for free information on advertised products



111

METRO'S METHODS SAVE TIRES, GAS, ETC.

(CONTINUED FROM PAGE 110)

to give an explanation. If his explanation reveals gross neglect on his part, a special report is made out to the client whose truck he is driving. We follow that procedure because drivers are employed and paid by the client. By analyzing our weekly tire records and cost sheets we can tell which drivers are having the most

tire trouble and which mechanic's work causes the most road calls. Our records back us up in case of controversy.

Our road call summary sheet reveals at a glance the number of road calls per truck, the nature of the failures, the mechanic who PM's the truck and summarizes the daily calls for each month. The sheet also shows total calls for preceding month and for the current month a year ago. If the sheet shows that one mechanic has had seven tire failures for the

month while others have had only three and four, we want to know why from the mechanic.

We find that the major causes for tire failure are under-inflation, riding in car tracks, failure to repair cuts in time, failure to check and correct wheel alignment, and poor mating practices. Our preventive maintenance procedure in this respect is as follows:

All tires are branded with the vehicle number to which they are assigned. They remain with the vehicle for the life of the tire, if possible. If a tire is removed for repair, it is later returned to the same vehicle. Thus, if irregular wear persists or a particular condition repeats itself, we know that something is wrong with alignment or axle, etc.

As most trucks do not carry spares anymore, a tire failure constitutes a road call. We are not particularly anxious for drivers to change tires, in any case, as they are likely to do a bad job of it. However, trucks operating outside of a 25-mile radius of the garage to which they are assigned are provided with spares.

A fact in favor of this "no spare" practice is that drivers are more careful when they know there is no spare on the truck. The driver is responsible for tires while on the road and if he drives on a flat tire, he must account for his action; likewise, if he abuses the tire by scuffing or driving in such a way as to cause breaks. Our company has arrangements with numerous gas stations throughout the New York metropolitan area where a driver can go to have a tire inflated or changed, if convenient.

* Tires are checked once a week as well as at every 1000-mile inspection period. They are also given a visual check every night by the gasser who looks for soft tires, cuts, bruises and foreign particles. If he sees a tire damaged, he makes out a ticket notifying the PM mechanic that the tire needs checking. He returns the truck to its stall and places the ticket in a special box from where it is picked up by the shop foreman who turns it over to the mechanic responsible for the particular truck. The gas man also indicates any other suspicious thing he might notice about the truck in the brief time in which he handles it.

A second weekly check is made on
(TURN TO PAGE 114, PLEASE)

To Maintain Wartime Efficiency and Economy *Install* "PeKa" TRAVEL LOGS



Now that it's so necessary to be extra careful of tires and gasoline, you can't afford to be lax in disciplining the activities of your trucks. "PeKa" gives you an accurate record. It enables you to determine the average speed; it shows traveling time between points; it lets you see where, why and when the truck was stopped.

"PeKa" eliminates arguments, too. The driver writes his name or time clock number when starting. "PeKa" shows truck started at 8:00 instead of 7:30 A.M. While the truck is moving, the instrument writes; when it stops, the driver writes. All stops must be accounted for.

You'll find the way to more economical operation with a "PeKa" on every truck in your fleet.

"PeKa" is the recording device fleet operators have long wanted. It was introduced to show you clearly the "working" hours of your trucks.

Furnished in 12-24-72 hours recording, with or without a mileage counter. Guaranteed for one year.

Send for full details of the "PeKa" Travel Log, and also our Dash Board Odometer, Hubodometer, Tachometer and Counters.

PAUL KNOFF 41-43 37th Street
LONG ISLAND CITY, N.Y.



... but GOOD OIL will make her LAST LONGER!

LABORATORY CONTROL SERVICE *A Specific Aid*

This special service—previously maintained only for "trouble-shooting" to correct excessively high operating costs and reduce down-time—is now expanded.

Wolf's Head engineers analyze oil after its use in your units, and make specific recommendations for reducing operating costs and prolonging engine life in YOUR fleet. This valuable service costs you nothing—write and ask how to get it.

These days, when normal replacement schedules have become "scraps of paper," equipment needs better care than ever before.

Careful driving and careful maintenance work are absolute *musts*. And you simply can't be too careful about choosing and using anything as important as oil.

Maintenance records set by Wolf's Head users in pre-Pearl Harbor days, tell a story that no fleet operator can overlook today. They show how, with Wolf's Head, you can effectively prolong engine life . . . and save money while you're doing it.

This is no time to be complacent about oil and lubes. Find out what Wolf's Head has to offer TODAY as the result of over 60 years' experience in refining Pennsylvania crude. Write to Wolf's Head Oil Refining Co., Oil City, Pa., or New York, N. Y.

WOLF'S HEAD MOTOR OIL AND LUBES

100% PENNSYLVANIA  P.G.C.O.A. Permit No. 6



METRO'S METHODS SAVE TIRES, GAS, ETC.

(CONTINUED FROM PAGE 112)

tires by a special tire man who goes from garage to garage. If a certain group of trucks are scheduled for their regular weekly tire check on Wednesday, the tire specialist schedules his call on a Saturday. He may inspect an entire fleet or just five to 10 trucks. If the spot check for in-

flation or tire neglect leads the inspector to suspect the rest of the fleet, he can order a recheck of the entire fleet.

This special tire man manages to call on every garage at least once a week to spot check every group of trucks. Among other things, he double-checks on tire switching and tread wear. Ordinarily tires are rotated every 3000 to 4000 miles, depending on the estimated life of the particular tire. We retread good

tire carcasses two to three times and try to keep retreads on rear wheels. This precludes the normal rotating routine in the case of trucks with retreads on the rears. In this case we might just switch tires from left to right wheels.

The third phase of our conservation program deals with gasoline economy. In this respect drivers are instructed to shut off engines on stops over two minutes' duration. Gas consumption is checked daily by the gasser. If the truck shows abnormal consumption of either gas or oil, it is the gasser's job to report this fact to the garage foreman. Investigation often shows excessive consumption due to bad valves or low compression. Governors are overhauled and checked more frequently. Smaller jets are installed when practical.

An important aid in obtaining maximum gas economy is our practice of making laboratory tests of our gas every 90 days and sometimes as often as every 60 days. These tests show if the gas has the octane rating specified by us, or if there is dirt or water in the gasoline. What the laboratory test actually amounts to is a check to see that the gasoline meets with our purchasing specifications. A major part of our gasoline economy is due to our insistence that the gasoline quality be maintained.

Similarly, oil reports indicate if the quality of the oil is off specification. Our experience with good and bad oil parallels that of gasoline. The best assurance of oil economy is the laboratory tests at specific periods.

We don't, of course, depend entirely on laboratory tests to check gas and oil consumption. As soon as we find that consumption is out of line for a truck we send that vehicle into the shop for an inspection. We will overhaul carburetor and fuel pump, check fuel lines, gas tank, oil filter, etc., and leave no part untouched in an effort to find the trouble. The result has been a 12 per cent increase in gas economy this year over the same period in 1941.

Included in our gas conservation is the practice of guarding against spillage at the gas pump. Too often careless dispensing is the cause of entirely unnecessary waste.

END

(Please resume your reading on P. 44)

Where would America be Today WITHOUT HER TRUCK FLEETS?



With more than a half-million fewer freight cars in service now than when trucking was in its infancy, where would America's war effort be today were it not for her truck fleets?

You know the answer!

You know, too, that your vehicles have got to operate more miles with greater efficiency and less time out for engine overhauls.

Right now is the time to be glad you own HALL Valve and Valve Seat Grinding Equipment. If you haven't it or if your present HALL Equipment is in need of repair or rebuilding, see your Jobber at once or write direct to the factory today.

THE HALL MANUFACTURING CO., TOLEDO, OHIO

HALL

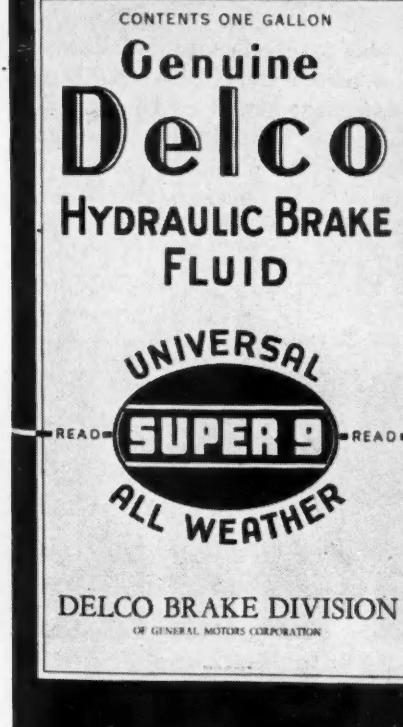
SAFEGUARD
Hydraulic Brakes
 with
DELCO SUPER 9
HYDRAULIC BRAKE FLUID

Operators and maintenance men agree on Delco Super 9 for safe brakes. Delco Super 9 brake fluid safeguards against "vapor lock" when brakes are hot . . . safeguards against "stiff pedal" when brakes are cold . . . and does not form

gum deposits. Use Delco Super 9, the choice of leading truck and bus manufacturers, for safe, positive brake action at all times.

Flush with Declene

When you reline brakes, flush the hydraulic system with Declene flushing fluid. Declene is a safe, powerful cleanser that removes dirt and gum deposits—discloses hidden weak spots that could cause brake failure.



BUILDING FOR VICTORY
 Delco Brake products are "in action" on combat cars and trucks of our fighting forces. Other armament materials and equipment are being built by the Delco Brake Division to the limit of its facilities.

Delco
BRAKE DIVISION
 GENERAL MOTORS CORPORATION



Delco Super 9, Declene and Delco Brake replacement parts are distributed by United Motors Service and Bendix distributors.



STANDARD FOR EQUIPMENT—THE STANDARD FOR REPLACEMENT

BATTERY CABLES CAN BE FACTORY RECONDITIONED

A plan for the factory reconditioning of used battery cables has been announced by the Wire Division of The Electric Auto-Lite Co. The objectives of the plan have been approved by the Transportation Section of the Office of Civilian Supply of the War Production Board.

In the opinion of V. F. Dobbins,

general sales manager, the battery cable situation will reach a critical point shortly after the first cold spell, when battery cable volume normally peaks. No copper has been allocated for the manufacture of replacement battery cables since March 1, according to Mr. Dobbins, and while stocks in dealer and jobber hands are ade-

quate to meet current demands, it has been impossible for the battery cable manufacturer to build up the factory stocks which normally exist at this time of the year. Moreover, the copper situation is so critical that it appears unlikely that any copper will be allocated for this purpose for many months to come, and, if so, only at the expense of needed war production.

To meet this situation, Auto-Lite Sterling is sponsoring a plan which will (1) avoid the necessity of laying up needed cars and trucks, (2) prevent destructive wear and tear on batteries and electrical systems caused by makeshift cable repairs and (3) permit service outlets to continue to service their customers on battery cables, at a profit.

Service outlets and fleet operators are being urged to begin at once to turn their *used* battery cables in to Auto-Lite Sterling distributors, and order them Factory Reconditioned, in all cases where the copper conductor has not been too seriously damaged. These cables will be sent to the Auto-Lite Sterling factory at Port Huron, Michigan, where after cleaning and inspection they will be reconditioned.

On insulated cables, worn or damaged insulation will be replaced by the most suitable factory process; a new Auto-Lite Sterling non-corrosive terminal (the same type used as original equipment for the past few years) will be pressure-cast to the copper conductor; the lug will be re-soldered or replaced with a new Auto-Lite Sterling Power-Lug if necessary; and a new abrasion-resistant loom braid will be applied over the entire length of the cable, and impregnated with weather-resistant compound.

On ground cables, corrosion and grease will be removed; new Auto-Lite Sterling non-corrosive terminal pressure-cast to conductor; all straps will be stretched and "ironed" to restore original shape, and impregnated with corrosion-resistant compound.

To protect service outlets, and avoid the possibility of substitution, all cables will be identified as Auto-Lite Sterling Reconditioned by a label guaranteeing cable to be factory reconditioned and in serviceable condition, and noting length, type and corresponding Auto-Lite Sterling part number.



Save tires while increasing stopping power with MILEY BLACK GOLD Sets

With the war production push calling for double duty from every unit where overloading and speed-up runs require special attention for safety and smooth tire-saving stops, it is not surprising that experienced operators who know brake lining structure ask for MILEY BLACK GOLD and EBONITE Brake Linings.

BLACK GOLD SETS—BLACK GOLD, the densest lining manufactured, which gives soft, smooth pedal action and far greater mileage, balanced with EBONITE, the heavy duty, high friction, zinc wire resin impregnated brake lining, steps-up stopping power to match today's overloading and fast traffic demands. For today especially, when we are pledged to keep 'em rolling, specify MILEY BLACK GOLD Sets for vital trucks and cars.



Write for information on all MILEY products—Ready Lined Brake Shoes, Rebuilt Hydraulic Brake Cylinder Assemblies, Clutch Facings, Fan Belts and Rivets.



1062 W. ADAMS ST.
CHICAGO, ILLINOIS

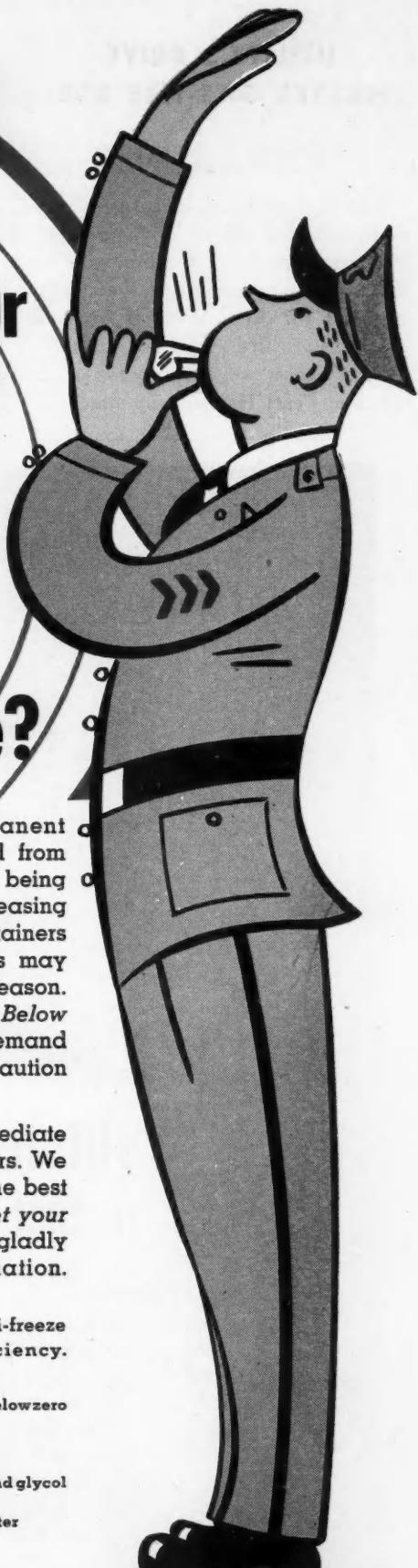
STOP!

Have you ordered your

**60 Below
Program**

TRADE MARK

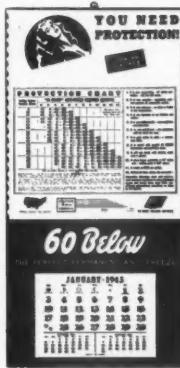
Permanent Anti-Freeze?



60 Below Jobbers are requested to reserve a large proportion of their supply of 60 Below for fleet owners, because we appreciate the essential position of the trucking industry in the war program.

FREE TO FLEET OWNERS

Fleet operators who use 60 Below in drum quantities receive



GO BELOW Anti-Freeze
BAUMITE Incendiary Bomb Extinguishers
FLUORITE Blackout Paints

WHILE 60 Below permanent anti-freeze is produced from non-critical materials and is being manufactured in steadily increasing quantities, shortages of containers and transportation difficulties may affect shipments later in the season. Ordering your supply of 60 Below now, before the big bulge of demand for anti-freeze, is a wise precaution on your part.

60 Below is available for immediate delivery from 60 Below jobbers. We will continue to supply it to the best of our ability. But we urge—get your supply now. Your jobber will gladly give you complete information.

60 Below is a permanent anti-freeze that excels in all-around efficiency.

- Non-evaporating
- Protects proportionately as low as 67° below zero
- Non-corrosive
- Non-injurious to finishes and rubber
- Non-gelatinous and non-viscous
- Mixes freely with alcohol, methanol, and glycol
- Non-inflammable
- Tests with special 60 Below hydrometer

FREEDOM CHEMICAL COMPANY

310 LAKESIDE AVE., WEST • CLEVELAND, OHIO

Plants in Cleveland and Toronto, Canada

UTILITY'S DRIVE HALVES GAS-TIRE USE

(CONTINUED FROM PAGE 46)

The results were well worth the extra cost and effort, as the following comparison will show. The average m.p.q. for July, 1940, was 210 and for July, 1941, it jumped to 314; one-third more per quart!

This is how we were operating at the time Pearl Harbor was attacked.

At the end of 1941, our records disclosed that our vehicles covered 3,000,000 miles during that year, in the regular business of providing new and efficiently maintaining existing service facilities. These vehicles consisted of 168 units of several types from standard passenger cars to 5-ton heavy duty trucks.

Now that our rubber supply was cut off, we knew it wouldn't be long before we would have a tire replacement problem. Inasmuch as we already had a general conservation

program in force, we knew there was little or no waste mileage, consistent with the kind of service our consumers expected. Therefore, how to cut further gave us something to think about. This really was a problem!

But our sixty years in business taught us one thing for certain: when there are two major problems facing us, the greater must always take precedence over the smaller. Since our crude rubber supply was lost, there was but one thing to do—cut tire mileage and cut it drastically!

In addition, we decided that we could aid national rubber conservation by voluntarily reducing our tire purchases by 40 to 50 per cent. To accomplish this, without tying up any trucks, meant that there had to be an additional proportional reduction in mileage. Conservatively, this would have to be better than 100,000 miles per month. Astronomic figures! In view of the heavy defense plant demands and new defense housing projects, the plan didn't seem feasible.

We went through the motions of working out the details of a program to accomplish this tremendous goal, but with very little enthusiasm of attaining it.

However, it was on Jan. 26, 1941, that our present War Materials Conservation Program was officially launched and placed in operation. Our announced goal was the reduction of the 1941 total mileage, 3,000,000 by half or 1,500,000 miles. Based on average tire mileage, approximately 18,000 miles, this would enable us to conserve around 350 tires and about 112,000 gallons of gasoline.

Specifically, a reduction of company passenger car use by 60 per cent and trucks by 50 per cent was the basis for the above figures. Quotas were laid out accordingly.

Our first step was to pool passenger car use. There had to be several riders in each car. Service men, company officials, department heads and all others on business errands were requested to call in requests for use of car service as far in advance as possible. Where only one man was scheduled to go in a particular direction, he was in-

(TURN TO PAGE 120, PLEASE)

ZENITH GOV-U-RETOR

PUT TEETH in that PLEDGE

In cooperating with the ODT drive to keep America's trucks rolling longer, you'll find a simple way to "put teeth" in your pledge is to install "ZENITH GOV-U-RETOR" speed controls. Combining fuel-saving carburetion with fool-proof governing, this easily installed unit offers you a powerful ally in conserving trucks, tires and fuel. Write or wire.

Zenith Carburetors are members of "The Invisible Crew" ... Bendix equipment serving with America's fighting crews on every front.

THE INVISIBLE CREW
Precision Equipment by **Bendix** AVIATION CORPORATION

ZENITH CARBURETOR DIVISION, Detroit, Michigan

**WARTIME TRUCK TIRES ARE AS ALIKE
AS TEETH ON A GEAR
-ALL BUT ONE**

Heat-Vents IN
SEIBERLING TRUCK TIRES

**-protect against internal heat
-conserve rubber for Victory!**

● Let's face the facts! By standardizing specifications for *all* tire manufacturers in order to conserve rubber, governmental regulation has made most wartime truck tires just about as much alike as the teeth on a gear. But, because the famous Seiberling Heat-Vents save rubber, they have been retained as an *exclusive* feature of the Seiberling wartime truck tire.

What does Heat-Venting do for you? Plenty! The vents in the shoulders of your

Seiberling tire *expel dangerous internal heat*—the same heat that causes more tire failures than all other factors combined. Today, this extra protection is more important than ever, for *all* wartime truck tires contain less crude rubber and more reclaim—are far less resistant to internal heat.

With your next ration certificate get the truck tire that *lasts longer* because it *runs cooler*. Buy Seiberling Heat-Vented Truck Tires!

**Your tires are fighting for America . . .
Keep 'em in fighting shape!**

Your trucks are vital units of transportation in America's war effort. To "keep 'em rolling" for the duration, care for your tires *now*. Here are four steps you can take to make those tires wear longer . . .

1. Drive under 40 miles an hour; speed burns up rubber.
2. Drive only when necessary; conserve vehicle and tires.
3. Whenever possible, share transportation; pooling saves rubber.
4. Check tires for proper inflation at least once a week. Have a reliable service man check wheel alignment, brakes, and tire casings regularly. Seiberling Distributors offer this mileage-doubling Protective Service.

SEIBERLING
Heat-Ventied **TRUCK TIRES**

V Save
Rubber
For
VICTORY

MAKE YOUR TIRES OUTLAST THE JAPS!
Ask your Seiberling Distributor about Protective Service



UTILITY'S DRIVE HALVES GAS-TIRE USE

(CONTINUED FROM PAGE 118)

structed to use public transportation facilities.

Bicycles were provided for all business to be transacted within one to three miles of the office or plant, as well as for such jobs as meter reading and collecting. Anything less than the minimum bicycle travelling distance of one mile, would require walking.

The entire South Jersey territory covered by Atlantic City Electric Company was laid out into two routes that would be covered by regular messenger service to facilitate business contacts between the home office and plant and the seven other service zones.

Route No. 1 provides one way service and makes the western and southwestern territory; a total of 158.5 miles. The trip takes eight hours and five minutes, including a brief layover time at each stop,

for passengers to transact company business.

Route No. 2 is the short run and, therefore, provides return pick-up service as well as the out-bound stops. Because the total run is only 114.3 miles, this route permits a more flexible arrangement. The messenger may, for example, go as much as five miles off his route for pick-ups and deliveries if necessary.

Definite time schedules were prepared and copies circulated in all departments, among all interested personnel. Timing and operations were made as precise as railroad schedules. On the schedule for Route No. 1, train and bus connections also are shown. A portion of this schedule is shown in Fig. 4.

For this messenger service, a suburban carry-all, seating four passengers, is used. It replaces the original $\frac{1}{2}$ -ton panels or other light equipment originally used for that service.

We thought that a terrific barrage of kicks and complaints might result but were going to put the plan into effect, if for no other reason than to see how badly we estimated mileage savings possibilities.

Our scheduling of the service fleet movements also was not without headaches. By careful, tactful questioning the boys admitted, after blowing-off steam, that a 10 to 15 minute delay didn't really matter, especially when it saved running over the same roads several times daily.

The entire plan was really simple, though loaded down with a great deal of preliminary work. Until thoroughly understood and tried, it appeared to hinder rather than expedite and conserve.

Even though we had our doubts as to the complete success of such an ambitious program, in the face of the previous, continuous P M and conservation efforts, we sincerely hoped it would work. As a result, we didn't make any tabulations until the end of that first month, February 25—prayerfully hoping that there might be a chance for success.

But the boys came through—and marvelously! We cheered and we complimented; not daring to check our figures again, lest we find that big mistake which we feared was

(TURN TO PAGE 122, PLEASE)

Each part of the Army's newest, streamlined "Sunday Punch" was picked for war service. For swift, sure starts, they used "BENDIX" Drive. Engineered into many M-4's, and other mechanized units, this mighty midget is backed by billions of instant starts in peace-time engines. In replacement service, too, "BENDIX" Drives help keep essential vehicles on the job.

The "BENDIX" Drive is a vital member of "The Invisible Crew"—the precision equipment built by 15 BENDIX Divisions—serving with our fighting crews on every front.

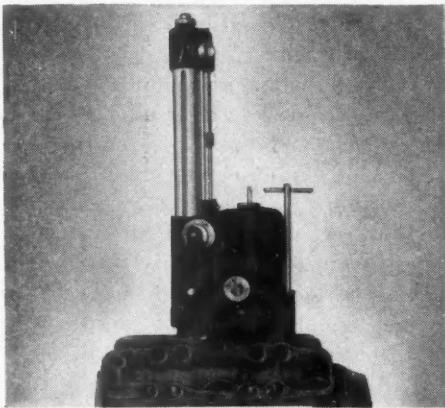
THE INVISIBLE CREW
Precision Equipment by
Bendix
AVIATION CORPORATION

ECLIPSE MACHINE DIVISION

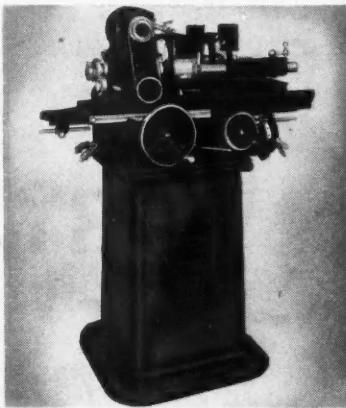


VAN NORMAN

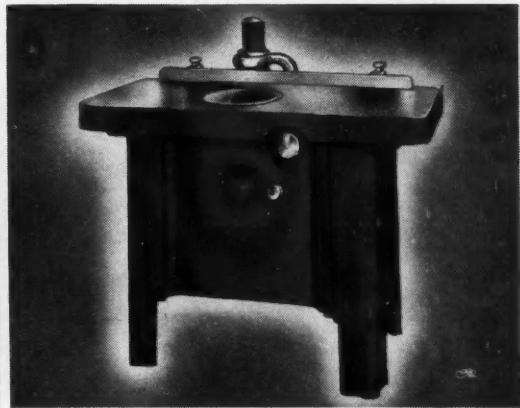
WILL KEEP IT FLYING WITH
PLUS-PRODUCTION OF
THESE MACHINES



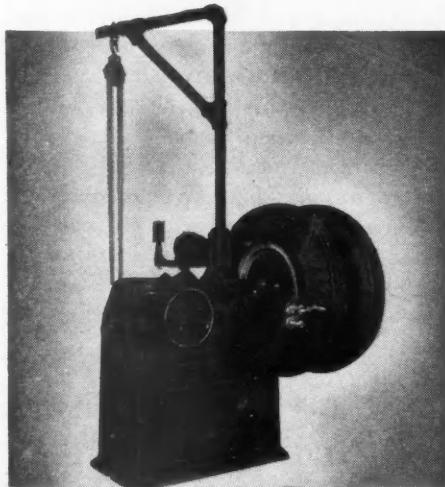
★ Per-Fect-O Boring Bars



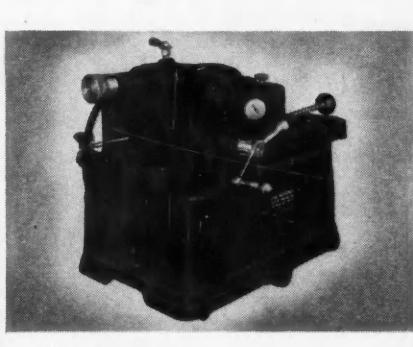
★ Piston Grinders



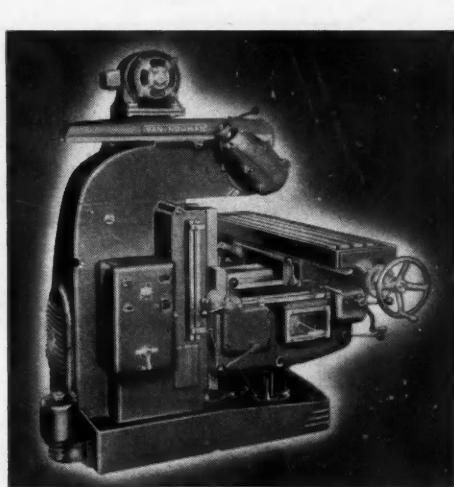
★ No. 555 Horizontal Surface Grinder



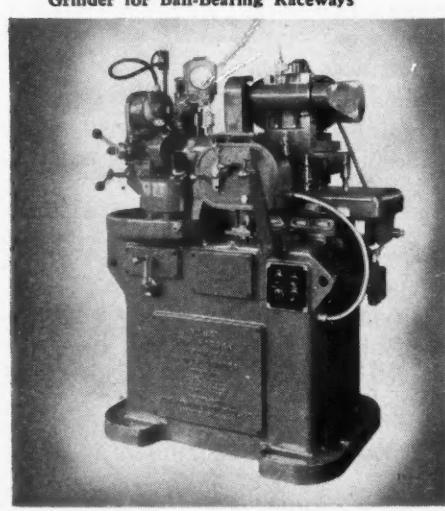
★ Above: No. 303 Brake Drum Lathe



★ Valve Refacers



Above: No. 26 Ram-Type Miller for
toolroom and short-run production work



★ Below: No. 620 Oscillating Radius
Grinder for Ball-Bearing Raceways



Left: No. 10-C Contour Milling Machine



The Army and Navy E will continue

to be fully earned, seven days a week,
by every one of the many hundreds of
Van Norman men and women who
are working to put production farther

and farther ahead of schedule on Van Norman automotive service machines
for the armed forces in the field . . . and on machine tools for production of
war materiel, three of which are shown. Here today, only one thing remains
on a pre-war basis . . . and that is the Van Norman standard of quality.

"It pays to Van Normanize"

VAN NORMAN MACHINE TOOL COMPANY
SPRINGFIELD, MASSACHUSETTS

UTILITY'S DRIVE HALVES GAS-TIRE USE

(CONTINUED FROM PAGE 120)

there somewhere. But the tabulated results of that first month's efforts remained unchanged, as shown in Table I.

We were so carried away with enthusiasm that it wasn't until later that we noticed that the final result

actually was short of the goal for the month. However, we still say it was a wonderful showing.

Of course, while the tire conservation objective was not tabulated, everyone was quick to recognize that, in the mileage reduction shown, there was also a tire saving. Yes, 20 to 25 new tires that the local tire rationing board could use for private or commercial cars—our customers. The additional reduction in gasoline consumption undoubtedly

was cheerfully absorbed in our gas starved area—7,187 extra gallons available for private or commercial cars.

All in all, the results of this one month's extra effort were very gratifying—and not a single customer was inconvenienced or disgruntled! We then became convinced that our annual goal could be achieved.

Month after month there were improvements. We show, in Table II, the results of our efforts at the half-way mark.

Conservation of motor oil also is part of our War P M effort. Here, too, we were hopeful but not too expectant because of the excellent showing for the year previous. However, using July figures to keep oil comparisons equal, the results showed the 1942 m.p.q. average for that month to be 362—a little over 13 per cent.

As for the previous year, no certain factor was responsible for this gain. Credit belongs entirely to the all-round excellence of mechanical work and tune-ups, as well as to driver cooperation.

With the first six months behind us, we learned much that is very valuable. Not the least important is that saving brings abundance—to ourselves and others. It can do much good for the little extra effort.

No doubt you are wondering what the overall financial effect of all of this effort happens to be. Frankly, we cannot tell you exactly. You will no doubt guess that some of the things we are doing in order to make these savings are in themselves quite expensive. There is a great deal of lost time and other expenses involved. So that by and large we may possibly not even be breaking even, but we are doing those things that are necessary to win the war. We are saving rubber and gasoline as we have been requested to do.

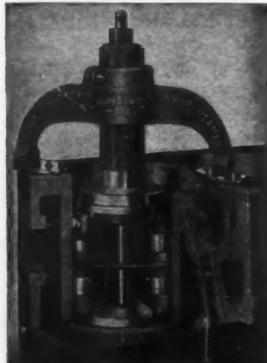
Wouldn't it be the true spirit of Democracy if all over America every motor vehicle operator conscientiously pursued such a program of abundance. Let's join hands in such an effort—for the good of the U.S.A.

END

(Please resume your reading on P. 47)

ORDER NOW FOR PROMPT DELIVERY

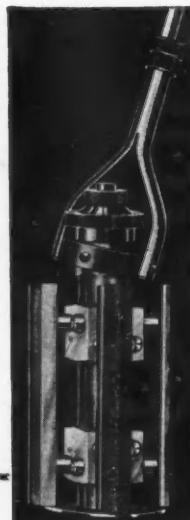
HOLD DOWN TIME
ON RING JOBS!



time-saver on ring jobs. Send coupon for details.

LISLE Ridge Reamer

This time-saving tool is all the more valuable now that there is a scarcity of good mechanics. Factory-set cutter eliminates tedious re-setting. Patented lathe action follows cylinder contours; removes ridge in one easy operation in one minute per cylinder. No lapmarks—ring fitting is easier. A real time-saver on ring jobs. Send coupon for details.



LISLE Cylinder Hone

for Partial or Complete Honing

The Lisle Cylinder Hone is fast, accurate, easy to operate. Quickly adjusted, without special tools, to fit any size cylinder from 2 11/16" to 4 1/2". Seven exclusive advantages make this the most efficient, economical hone on the market. Write for illustrated literature and prices.

LISLE CORPORATION • CLARINDA, IOWA

MAIL THIS COUPON

Lisle Corporation, Box 1017, Clarinda, Iowa
Send me Free literature and complete details on

PIN HOLE HONE CYLINDER HONE RIDGE REAMER ROD ALIGNER

Name

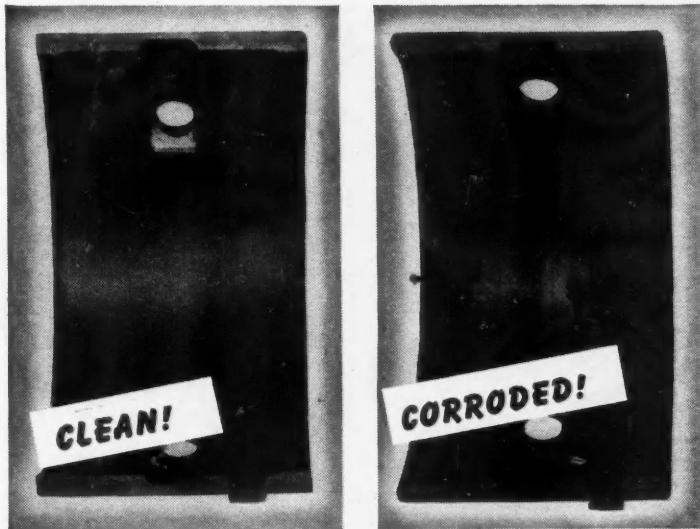
Address

Question: Will your trucks run for 5 MORE YEARS?

Answer:
Only if their motors
get proper care!

It's good business—it's your patriotic duty—to take the best possible care of your present motorized equipment. That's why motor lubrication jumps sky-high in importance . . . That's why Quaker State HD Oil is so amazingly popular with truck operators. It does a job of protective lubrication that conventionally refined oils can't match. For, it is skillfully refined from pure Pennsylvania grade crude oil and scientifically compounded with tested chemical agents which provide the important anti-corrosion and detergency features so necessary to the proper lubrication of truck engines—both gasoline and Diesel.

"We don't know what crankcase sludge is any more," says the Pensacola Coach Corp. "Your oil will do all you claim for it. It has materially reduced our lubricating costs," says the Huey Motor Express . . . Hundreds of other operators are finding Quaker State HD Oil a sensational success in saving motors and lowering costs. Send for the HD Booklet that will show you how to make your trucks last years longer. Quaker State Oil Refining Corporation, Oil City, Pennsylvania.



These copper-lead bearings are clean and bright after a test run of 30,000 miles with Quaker State HD Oil, specially formulated for heavy-duty service. No evidence whatever of corrosion.

These copper-lead bearings after 10,000 miles under the same testing conditions became badly corroded. Oil used was a nationally sold, conventionally refined oil with no additives.

QUAKER STATE

HD
OIL

**—A NEW OIL FOR SERVICE IN TRUCKS, BUSES,
TRACTORS AND OTHER MOTORIZED EQUIPMENT
—BOTH GASOLINE AND DIESEL ENGINE POWERED**



Join the U. S. Truck Conservation Corps and Earn the Right to Display This Emblem



Members of the Marmon-Herrington Ten-Year Club, organized for workers, turned the tables on officers of the company recently when they inducted them into the club and presented them with buttons. Affixing their buttons are, left to right, D. I. Grossbrenner, secretary-treasurer (now in military service); A. W. Herrington, president, and Bert Dingley, vice-president. Mr. Herrington was the subject of a featured article in the Aug. 8 issue of *The Saturday Evening Post* entitled "Hell-on-Wheels" Herrington. The titles held by Messrs. Herrington and Dingley were changed to chairman of the board and president, respectively, in a new organization set-up, which includes the following vice-presidents: R. C. Wallace, in charge of engineering; Seth Klein, production; C. Alfred Campbell, public relations; George E. Reynolds, eastern district. The new secretary is William B. Nottingham, and the treasurer, H. DeBaun. Their assistants are John J. Klein and L. M. O'Connor. Mr. Herrington will continue active in the company's affairs.

MARKE^D ECONOMIES IN ARROW MARKERS

Marker lights of all types are built by ARROW to conform to Federal, State and local specifications. Red and amber lenses—single, double and triple units are all made to stand up in tough weather and heavy duty service.

ARROW offers a complete line of auxiliary lighting and safety

devices built to rigid specifications to assure long, serviceable operation. We welcome inquiries both from manufacturers of new equipment under government priorities as well as commercial fleet and bus line operators for replacement purposes. See your local jobber salesman or write direct to Dept. 142.

ARROW PRODUCTS HELP KEEP OUR ARMED FORCES ROLLING.



Turn Signals



Clearance Lamps



Stop Lights

ARROW SAFETY DEVICE CO., Inc.
MEDFORD, NEW JERSEY

Chevrolet Campaigns Conservation

Chevrolet dealers are engaged in a four-fold war-participation program, according to William E. Holler, Chevrolet general sales manager.

Listing the four major phases of direct dealer tie-ups with national movements, Mr. Holler enumerated: War Bond Drive, Scrap Rubber Collection, ODT Truck Conservation Corps and the Scrap Metal Collection Program.

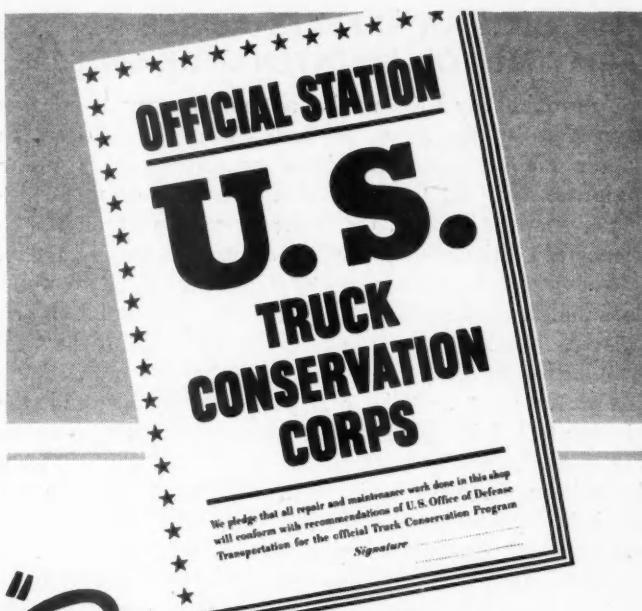
In cooperation with the Office of Defense Transportation, Chevrolet dealers have undertaken to distribute nearly 350,000 of the decals which truck operators are urged to display on their vehicles after signing the Truck Conservation Corps pledge.

Safety Council Convention Changes

The dates of the 31st National Safety Congress and exposition have been changed to Oct. 27, 28 and 29. It will be housed in the Sherman, La Salle and Morrison hotels in Chicago, instead of the Stevens and Congress hotels which have been taken over for military purposes. Convention headquarters will be in the Sherman.



This illustrated wall chart, 21 by 27 in., explaining the uses, basic principle, advantages and method of application of its various types of self-locking nuts, is offered by Elastic Stop Nut Corp., Union, N. J.



"Preventive Maintenance CALLS FOR KESTER SOLDER

★ Truck conservation is vital—an official wartime program being urged by the Office of Defense Transportation. It calls for better maintenance—preventive maintenance—the kind that will keep the nation's trucks rolling efficiently until the war is won.

Maintenance calls for Kester Cored Solders, the standard shop material that cuts time and costs, makes permanent repairs, on a hundred and one important jobs.

Self-contained flux—the right kind and amount—makes Kester Cored Solders easier to use. Guesswork is eliminated; your men get better results quicker. Once a job is done with Kester, it "stays put" because Kester alloys resist bending, shock, vibration and the contraction and expansion of temperature extremes.

Standardize on Kester Cored Solders—Kester Acid-Core Solder for general repairs, Kester Radiator Solder to make cooling systems tight, and Kester Rosin-Core Solder for all electrical work. Keep all three on hand always.

Order from your wholesaler.

KESTER SOLDER COMPANY

4205 Wrightwood Avenue
Chicago, Illinois

Eastern Plant: Newark, N. J.
Canadian Plant: Brantford, Ont.



KESTER
Cored Solders
FOR EVERY AUTOMOTIVE USE

INTERNATIONAL CHAIN ↑



LOST time—rubber waste—accidents—result from "taking a chance without chains."

★ ★ Campbell Lug-Reinforced Tire Chains give you positive protection. Their exclusive saw-tooth design really "digs in," gives traction "all-ways," lets your units start and stop without dangerous, rubber-consuming skidding and slipping. Campbell's special, molybdenum steel alloy assures much greater chain mileage—much longer chain life.

★ ★ Write for details of this radically different* tire chain. International Chain & Mfg. Co., York, Pa.

*U. S. Pat. No. 2,093,547—Canadian Pat. No. 223,568

SPARK PLUG *Conservation* SAVES *Much* MORE



Gasoline isn't all you save if you take proper care of your spark plugs. In addition to the 10%

improvement in gas mileage which clean, accurately gapped plugs can produce, there are at least three other vital savings.

First, you eliminate those road interruptions which plug trouble causes. You keep your vehicles rolling. Second, you hold down those maintenance costs which are caused by imperfect fuel combustion. Third, you prolong the life of your plugs.

Thousands of operators are using AC's "run-tested" formula for this conservation. Their experience recommends it to you—

1. Check, clean, and regap all plugs every 4,000 miles.
2. Replace worn and damaged plugs promptly with new AC's.

Make this a regular rule, and you'll conserve in many ways.



Have Your AC Supplier
Check "Heat Range"
when you replace plugs.

The Quality
Spark Plug

AC SPARK PLUG DIVISION • General Motors Corporation

1000 CIVILIAN EXPERTS ADVISE ARMY MOTOR MAINTENANCE UNITS

Approximately 1000 civilian automotive experts are now employed by the Army as instructors and advisers to motor maintenance units in a comprehensive training program designed to insure that operation of motor vehicles shall be kept at the highest possible point of efficiency at all times, the War Department announced today.

These civilian technicians have been assigned to divisions and larger tactical units within the continental United States to assist automotive officers in carrying out the vital training of drivers, repair and maintenance crews.

For the most part, War Department officials said, the civilian technicians qualified for appointment by outstanding technical ability and experience in civilian life. They have been executive maintenance heads of large motor truck fleets, inter-state motor bus companies and, in some cases, have had extensive experience in truck factories.

One of the most important phases of the civilian technicians' work is preventive maintenance training. Through lectures, demonstrations and personal instruction, drivers and mechanics are trained to prevent breakdowns by proper lubrication, to save tires by frequent checks of air pressure and generally to keep their individual vehicles at peak performance through careful operation.

With modern armies utterly dependent upon motor vehicles for speed and mobility, War Department officials pointed out, the utmost importance attaches to this preventive maintenance.

All training is under the direct supervision of the automotive officer, a member of the division (or higher organization) general staff, acting for the Commanding General.

Training begins with the first echelon, the driver of the vehicle and the company maintenance crews. Since this echelon and the second echelon—battalion and regimental maintenance crews—are equipped to make only minor repairs and replacements, their training is chiefly in preventive maintenance.

These first and second echelon units hear lectures by the civilian technicians on the proper care of their vehicles in regard to scheduled lubrication, replacement of minor units, replacement in the first echelon, and limited unit replacement in the second echelon, as well as emergency repair and recovery of damaged vehicles on the battlefield in both echelons.

Maintenance units of the third and fourth echelons, the division and army corps, respectively, are equipped to handle replacement of all unit assemblies, overhaul of accessory unit assemblies and sub-assemblies and battlefield recovery in the third echelon, and more extensive repairs, such as rebuilding a vehicle from serviceable parts, as well as the other functions in the fourth echelon.

In the third and fourth echelon maintenance units, instruction tends more toward repair and replacement than preventive maintenance, although the latter is never neglected.

Motor bases, which are operated in the zone of communication and zone of the interior—usually at base ports in overseas service—are equipped for precision production line rebuilding of all unit assemblies and for the limited rebuild of any Army vehicle. It is to these motor bases that the more seriously damaged vehicles are sent by the lower echelons.

Civilian technicians are assigned to combat units and

remain with them as long as the units stay in the continental United States. They will not be sent overseas with combat units.

PRIVATE OWNERS ASK ADVANCE ODT & OPA CONSULTATION ON RESTRICTIONS

Suggestions have been made to Leon Henderson, director of the Office of Price Administration, and Joseph B. Eastman, director of the Office of Defense Transportation, that in the future these war agencies consult with representatives of industries employing private motor trucks before promulgation of regulations affecting private motor truck transportation.

Emphasizing the difference between "transportation" as performed by common motor carriers and "distribution" in which private motor trucks are operated incidental to the carrying on of private industry, a resolution adopted at a meeting of the Board of Directors of the National Council of Private Motor Truck Owners stresses the need for appreciation of these differences in order that war regulations may be imposed most effectively and with the least dislocation of the functions and services of private business. President A. M. Grean, Jr., in presenting the resolution to Messrs. Eastman and Henderson assured them that the suggestions were made to enable private motor truck owners to give the government their fullest support in the all-out war effort. Following is the text of the resolution presented:

"WHEREAS, because of the many ramifications of private motor truck operations, and particularly the distribution functions of businesses serving the manufacturer, retailer and consumer as distinguished from for-hire truck transportation, and because governmental agencies have not made any adequate study of the importance of the private motor truck to our wartime economy, there exists the likelihood that the numerous problems involved in such operations may not be recognized in the preparation of orders, rules, and regulations restricting or affecting such operations, and

"WHEREAS, it is essential under our American system of government that public notice is given of legislation intended to modify, restrict, or eliminate rights or privileges enjoyed by our citizens, and opportunity given for interested parties to be heard prior to the enactment of such legislation, and

"WHEREAS, orders, rules, or regulations issued by the Office of Defense Transportation and the Office of Price Administration relating to the operations and functions of private motor trucks have the effect of law and directly affect a substantial portion of our citizens, represented by the industries in which such trucks are engaged.

"NOW THEREFORE, BE IT RESOLVED, that the National Council of Private Motor Truck Owners urges upon the Office of Defense Transportation and the Office of Price Administration the advisability of adopting some method of procedure whereby representatives of the private truck owners of America, and particularly representatives of the industry or industries to be directly affected shall be consulted in advance of the adoption and promulgation of proposed orders, rules, or regulations, all to the end that their ultimate effect and the results to be attained by them may be more fully investigated in advance, and that they will thus more effectively serve the war purposes for which they are intended."

Protect YOUR OIL and You Protect Your Engine



More mileage to the quart...and more miles between overhauls... that's what you get

when you equip with AC Kleer-Kleen Oil Filters and renew the elements promptly. AC Filters protect oil from dust, dirt, and sludge. Thus, they protect the engine.

Dirty oil clogs the slots in oil control rings, and those rings then cease to function. Clogged slots cut oil and fuel economy, cause accelerated carbon formation, and make an overhaul or ring job necessary sooner.

Give every engine the protection of an AC Kleer-Kleen Oil Filter. The only attention they ever need is renewal of the element when the oil gets black.

AC FILTERS - for Top Quality
ARGO FILTERS - at Lower Prices
available from Your AC Supplier

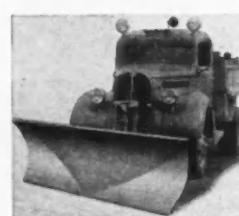


AC SPARK PLUG DIVISION • General Motors Corporation

Snow Delays Deliveries

But Not when you operate a Baker Snow Plow

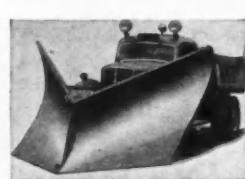
Few people consider how many things are brought to them daily via highway until there is a hitch or delay in the delivery system. Snow is the worst winter offender; but no delivery fleet or bus line need be stalled or held up by the heaviest snowfalls.



Bakers make trucks from 1½ ton upward efficient snow plows in a hurry. Light trucks handle deep drifts because they roll the snow off the road instead of pushing it. Available in three types: "V", Reversible and



One-Way. Being able to serve your customers without delay and delivering needed armament parts on time soon nullifies the



small cost of equipment. Hundreds of delivery and transportation companies of various kinds Snow Plows

have found Baker mean prompt winter service. Let us show you the inexpensive way to keep your supply lines open.

Send at once for Catalog 829, and for factual, attractively illustrated bulletin — "Snow — Friend of the Enemy."

BAKER MFG. CO.

571st Stanford Ave., Springfield, Ill.

BAKER

TRUCK &
TRACTOR
SNOW PLOWS

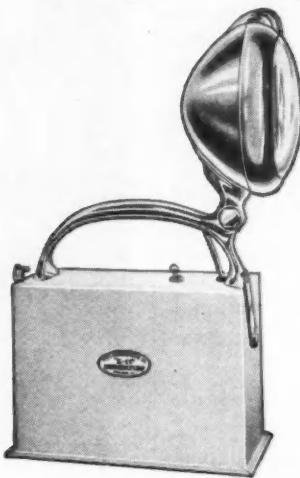


NEW PRODUCTS

(CONTINUED FROM PAGE 41)

P43. Portable Emergency Lamp

A new portable emergency lamp, which is available with either a wet or dry battery, and known as the "5-11," has just been announced by the Unity Manufac-



turing Co., 2909 Indiana Ave., Chicago, Ill.

The manufacturer claims the wet battery type can be recharged 200 to 300 times. Positive connections to the battery eliminate any possibility of sparking. There are no pressure or sliding contacts to corrode. It is equipped with a Willard "Spill-Proof" 6-v. battery with plastic case.

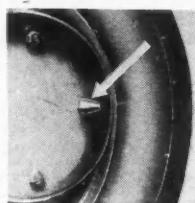
The dry battery type lamp is equipped with a Burgess Multiple Dry-Cell.

Both the dry and wet type of lamps use a 32 c.p. bulb. Either type will burn continuously for 6 to 8 hours.

The lamps are equipped with shoulder straps for easy carrying.

Use free postcard for more details

P44. Tire Lock



A new type hardened steel wheel lock which is so small, that it is claimed it will not affect wheel balance, and has no key or pins, has just been announced by Streeter-Amet

Co., 4103 Ravenswood, Chicago, Ill. Called the "Lok-On," it is so designed that only the man with the "Cap" part of the lock can take it off. For maximum protection it is designed in many different combinations. It is claimed by the manufacturer that no known tool can get a grip on the "Lok-On."

Use free postcard for more details

P45. Fast Charger

A safe, fast charge, an accurate capacity test and an easy voltage regulator test, are claimed for the new Fast Charger

HERE'S ALL YOU NEED TO END GASKET PROBLEMS Right Now

The Old Gasket And A Coat Of KEY GRAPHITE PASTE

NEW OR OLD GASKETS can be preserved and re-used with Key Graphite Paste...the ideal sealing compound on all thread, gasket and flange connections where high temperatures and high pressures...oil-proof, gasoline-proof and similar conditions are involved. Leak-proof joints can be made up economically on cylinder heads and manifold gaskets...crankcase gaskets...carburetor and gasoline lines...differentials...and for all oil and gasoline connections in the service station.

PRESERVE BATTERY POSTS AND TERMINALS

(Vital Materials)

Whenever batteries are serviced—water added—paint the entire post assembly after connecting with Key Graphite Paste—it checks corrosion and acts as an insulator.



Send for Free Sample... You can test Key Graphite Paste in actual service at no cost. Write for a liberal FREE sample of this compound—no obligations.



2612 McCasland Avenue

East St. Louis, Illinois

offered by the Willard Storage Battery Co., Cleveland, O.

The maximum charging rate is thermostatically controlled, a method which permits the maximum charging rate only so long as the temperature of the battery being charged remains within the maximum safe limit of 125 deg. F. When the temperature of the battery reaches this limit the charge is automatically terminated and a signal bell summons the attendant. An accurate capacity test can



Use free postcard for more details

be taken immediately after the charge is completed. It is not necessary to wait for temperature to drop to normal testing levels.

The charger may be secured in either 115 or 230 volts-60 cycles. Fast charging rate is 60 to 100 amperes. Slow charging rate, 12-15 amperes for one battery, 6-8 amperes for two batteries.

P46. Noninflammable Remover

Paint removing is greatly simplified by a new noninflammable, fast acting, wax-free paint remover—Turco Stripper L-595—recently introduced by Turco Products, Inc., Los Angeles, Calif.

It is claimed that it can be used with complete safety near welding machines, grinding wheels, etc. Danger of fire caused by sparks generated by cleaning metal surfaces with a wire brush or steel wool is eliminated.

Varnish, lacquer and some enamels require a maximum time of five minutes for complete removal. The most obdurate baked enamel requires not over 15 minutes for removal. No after-cleaning of the surface is necessary. The remover leaves the surface suitable for refinishing without further preparation.

It is claimed that the remover will not injure polished aluminum, stainless steel, polished copper or magnesium alloy.

Use free postcard for more details

END

(Please resume your reading on P.42)



Your McKay Truck Chains will be hard to replace this year—for new chains use steel and production facilities needed for War! So make 'em last by these simple "first aids":

PUT 'EM ON RIGHT—Avoid twists; pull up evenly, tight enough to reduce "throw" of cross chains to a minimum, but loose enough to allow chain to "creep" on tire.

DRIVE UNDER "40"—Remember, doubling speed of travel increases the impact of cross chains on the road four times . . . wears 'em out 4 times faster!

CLEAN AFTER USE—Rust and dirt are saboteurs! Clean and dry chains thoroughly when you remove them.

Mckay Chains Are Distributed Through
Jobbers and Manufactured by

THE MCKAY COMPANY
PITTSBURGH PENNSYLVANIA

Join the
U.S.
TRUCK
CONSERVATION
CORPS

REGULAR AND
MCKAY



BAR-REINFORCED MULTI-GRIP
TRUCK CHAINS

SAVE OIL FOR OUR FIGHTING FORCES

Filtered Oil Adds Miles to Engine Life . . . Reduces Oil Consumption

Oil loses its lubricating qualities when dirt, asphaltenes, and other foreign materials are allowed to remain in it. Dirty oil requires more frequent replacement, — while MICHIANA-Filtered oil improves lubrication of all moving parts, makes engines last longer, conserves oil for our fighting forces.



MICHIANA Filters are made in capacities and models for both gasoline and Diesel engines. On tens of thousands of trucks, fleets, busses, MICHIANA FILTERS are proving the effectiveness of the MICHIANA principle of filtering. MICHIANA PRODUCTS CORPORATION, Michigan City, Indiana.

For Gasoline Engines, Bulletin 839.
For Diesels, Bulletin 42-D.

MICHIANA Duo-Flo OIL FILTERS

MAKE YOUR *Cleaning Dollar* GO FURTHER
WITH MONEY-SAVING OAKITE
REPAIR AND MAINTENANCE "TIPS"

**Restoring cooling efficiency
easily the low-cost Oakite way**

Simply fill radiator with the recommended Oakite solution. Run motor for short period, then drain and flush . . . and dirt, grease, loose scale and rust are removed. Vigorous yet SAFE, Oakite detergent action makes quick work of removing ALL insulating deposits. With normal cooling efficiency fully restored, motors run smoother . . . consume less gasoline and oil.

Want details? Then write for FREE 36-page manual. Also gives money-saving tips for making worthwhile savings on such other work as degreasing repair parts with hot or cold solutions; washing truck bodies; and cleaning motors and chassis. Write for YOUR copy today!

OAKITE PRODUCTS, INC., 26D Thames Street, NEW YORK, N. Y.
Representatives in All Principal Cities of the United States and Canada

OAKITE  **CLEANING**
MATERIALS...METHODS...SERVICE FOR EVERY CLEANING REQUIREMENT



ODT PERMITS

(CONTINUED FROM PAGE 50)

est rail or water transportation facilities.

General Permit ODT No. 17-12 covers operations within a construction area and operations of dump trucks.

General Permit ODT No. 17-13 permits repair trucks to make call backs.

General Permit ODT No. 3-3 exempts common carriers in over-the-road transportation of exposed moving picture film from the various capacity load provisions and from registering their trucks with Joint Information Offices.

N. Y. Police to Enforce ODT Orders

New York State police will be mobilized to enforce truck conservation orders of the Office of Defense Transportation under an agreement just consummated between the New York State War Council and the ODT. The understanding provides for close collaboration between the New York State War Council and the ODT and sets up certain specific rules for State action. All police officials, both State and local, will have authority to enforce, within the State, any ODT regulation which has been matched by a State War Council order. Under the Emergency War Powers Act, these orders have the effect of State law.

It is expected, the ODT announced, that similar understandings will be reached with other States with a view toward more effective application of the orders throughout the country.

New ODT Field Offices

The Office of Defense Transportation announced two additional field offices in the Division of Motor Transport.

John L. Hawkins, of Charleston, W. Va., former manager of the West Virginia Motor Truck Association, has been named manager of a new field office at Charleston.

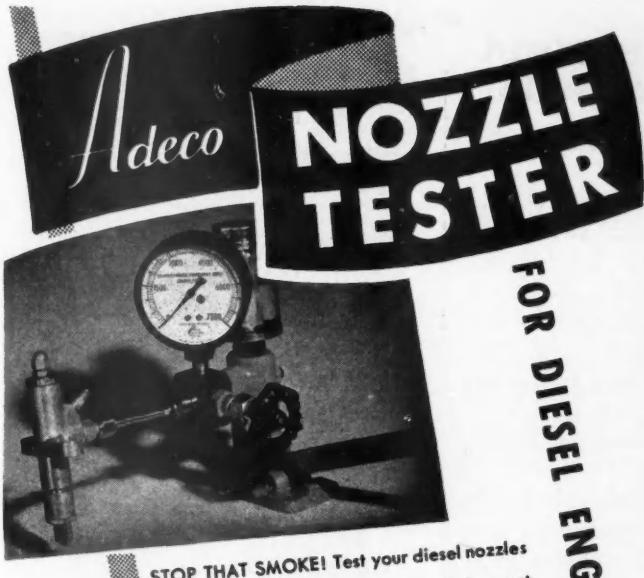
Harold L. Barnard, of Manchester, N. H., former manager and state secretary of the New Hampshire Truck Owners Association, has been named manager of a new office at Portland, Maine.

Kelcey Local Transport Assistant

Appointment of Guy Kelcey, of Westfield, N. J., as Assistant Director of the Local Transport Division, Office of Defense Transportation, was announced by Joseph B. Eastman, ODT Director. Mr. Kelcey has been connected with motor vehicle transportation for 20 years. He was instrumental in the development and application of numerous traffic devices and has conducted a number of surveys and investigations in the traffic field.

CCJ Managing Editor Joins Army

Stanley Gerstein, managing editor of the COMMERCIAL CAR JOURNAL, has been commissioned a captain in the Army Engineer Corps. He will be stationed at the Columbus Quartermaster Depot, Columbus, Ohio, as Chief of Publications Division, Field Maintenance Section.



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SAFETY LIGHTING AND EQUIPMENT

**WEST COAST FLEETMEN
SIFT WAR-TIME ISSUES**

(CONTINUED FROM PAGE 27)

per, "Safety and Inspection—Vehicle and Driver." Mr. Miller said he prefers to be known as a "dyed-in-the-wool" truck driver, rather than as a fleet engineer. He said that this war has opened the eyes of the truck fleet owner and small operator to the necessity of inspection, careful choosing of drivers, and taking advantage of their complaints.

The old type of truck driver, the "gear-jammer," has gone with the wind, Mr. Miller said. Today, truck driving is a profession, and fleet operators must listen to their drivers. They can reduce the overhead, reduce lost time, and reduce overhaul repairs. The moderate driver is putting dollars into the pocket of his employer. The reports he makes concerning gas and oil mileage, condition of transmission, brakes and running gear, are good barometers by which to judge the driver's ability and interest in his equipment. Inattention to minor repairs finally results in repairs out on the road, or towing in the truck, and consequently, minor faults have grown to a point where expensive repairs become necessary. This repair cost could in all probability have been reduced by 50 per cent by a daily inspection and report.

If the fleet owner of today does not maintain thorough inspection systematically, he will find that repair parts that were available to him a short time ago will not be available to him in the future, Mr. Miller warned.

In the discussion from the floor it was asked, "Where can we get good drivers?" The audience seconded the questioner with a fervid and loud "Amen." Mr. Miller acknowledged the difficulty of getting and retaining good drivers today, because of higher salaries frequently offered by war industries. Asked what he thinks of women as truck drivers, he said that he definitely favors the employment of women on small pick-up and delivery trucks, parcels not in excess of 250 pounds. He cited one of his companies which employs 27 women drivers, ranging from 21 to 26 years of age, 17 of them married, and 10

(TURN TO PAGE 160, PLEASE)

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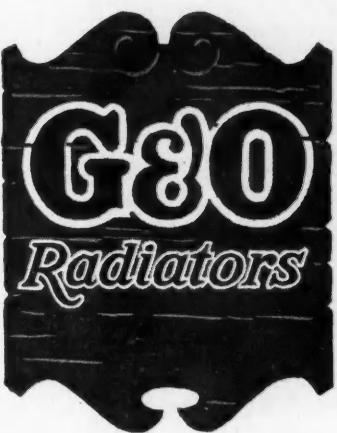
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(CONTINUED FROM PAGE 158)

single. Of the 27, 14 have been employed as drivers for nine months, and not one of them has had a fender scratch or a blown tire in that time. They drive eight-hour shifts, five and a half days a week. Two of them drive diesel trucks and trailers on a 250-mile haul. Women make excellent inspectors because they seem to have a natural aptitude for detail, he said. He urged that the fleet operators give serious attention to the employment of women drivers since more and more of the men are going into the armed forces.

The Truck Maintenance session opened with a paper, "Bearings for Diesel Engines," by Albert B. Willi, read by Russel A. Watson, factory manager, Federal-Mogul Corp., San Francisco. The highlights of the paper dealt with the best way to use available materials, with the question of destroying and scrapping parts that are not worn out, and with methods of salvaging some of these parts that have apparently lost their usefulness.

During the discussion which followed the reading of this paper, Sidney B. Shaw, automotive engineer, Pacific Gas and Electric Co., San Francisco, asked Mr. Watson whether a new kind of bearing trouble has arisen due to heavy-duty compounded oil, and Mr. Watson replied that such trouble arises only with those oils that have detergents and are used on very dirty engines. Mr. Shaw then asked whether any progress is being made with a porous-type material for bearings. Copper lead bearings are used where the porosity can be controlled, Mr. Watson informed him, and added that Ford of Canada uses them exclusively.

Wayne Goodale, research engineer, Standard Oil Company of California, San Francisco, asked whether it is lead sweating or pressure corrosion in the case of the failure of bearings in certain areas where lead removal is obvious. Mr. Watson replied that unless there is some evidence of corrosion over the entire bearing, it is lead sweating.

This topic led a member to report that his company finds unequal wear in the halves of the bearings, and in order to neutralize this unequal wear, they reverse the top and bottom

(TURN TO PAGE 162, PLEASE)



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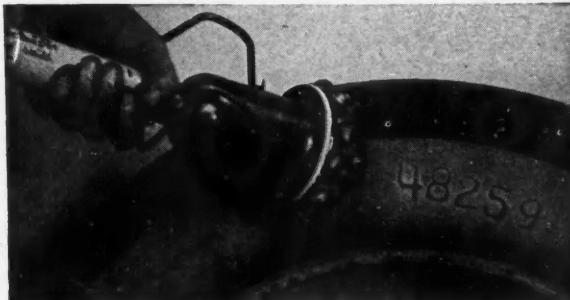
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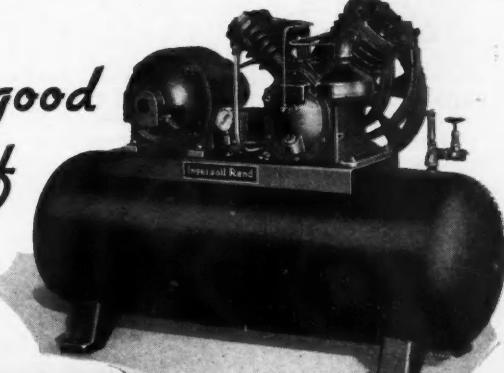
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(CONTINUED FROM PAGE 160)

halves. The shell seems to wear sooner on the side of the directional flow of the oil. He described the appearance of web-like cracks in this section. Mr. Watson explained that the appearance of such cracks is no indication that the bearing is wearing out; that such web-like cracks exist in new bearings. The member could demonstrate this to himself, he said, by soaking oil into a new bearing, and then squeezing it. The thin lines of oil will readily be seen.

Asked whether there is a trend to reduce the thickness of the lining of the bearing, Mr. Watson said, "Yes. But not for heavy-duty engines."

The interest of several of the fleet operators was expressed by a member who wondered whether fleet operators have been advised of the harmlessness of the varnish coating which appears on bearings. The Federal-Mogul Corp. has issued a new manual, Mr. Watson informed the audience, a copy of which is available for the asking. Its colored illustrations demonstrate effectively the various harmful and harmless surface discolorations and deposits, and make it clear to the reader when a bearing must be discarded and when it can be reconditioned.

"Reclaiming and Renewal of Worn Parts" was a paper ably presented by veteran SAE member Ellis W. Templin, automotive engineer, General Plant Division, Los Angeles Bureau of Power and Light. Replacement with new parts has in the past been in most cases the most economical method of renewal of worn parts, Mr. Templin observed. Now, however, fleet operators are facing a condition in which some parts are not even being produced. Therefore, conservation must be relied on, and four known and available methods of reclaiming and renewal of worn automotive parts are very successful under certain conditions. These methods—metal spray, welding, hard facing, and hard chrome plating—Mr. Templin explained, described the required equipment, discussed the desirable qualifications of the operators, and outlined briefly the costs involved in completing the repair in a few typical cases. The processes definitely provide means for the conservation of strategic materials so badly needed under the present war

(TURN TO PAGE 164, PLEASE)

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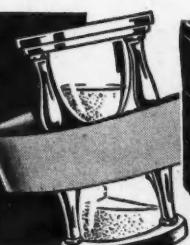
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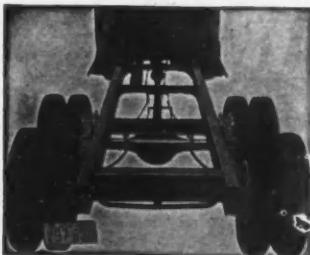
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(CONTINUED FROM PAGE 162)

conditions, Mr. Templin promised.

(Ed. Note: Mr. Templin's paper will be published in the October issue of COMMERCIAL CAR JOURNAL.)

Under the chairmanship of Verne J. Savage, superintendent of shops, City of Portland, Ore., the session was thrown open to discussion. Asked by Wayne Goodale, of Standard Oil of California, whether anything has as yet been done with heavy iron plating, Mr. Templin replied that there are indications that it can be done successfully when wear requires more than fifty thousandths; the build-up can then be completed with chrome.

Metal spraying interested many in the audience, and questions were fired at Mr. Templin on this process. Mr. Johnson, in charge of truck maintenance, City of Los Angeles, asked what can be done about reclaiming considerably worn or broken die-cast parts by metal spray. Mr. Templin replied, "Some operators have tried spraying such parts with zinc. The jobs have been successful, but each part is a separate problem."

"What about metal spraying brake drums?" someone asked.

"So far it has been unsuccessful," Mr. Templin replied. "It may be possible to heat the drums to a suitable temperature, and make the metal stay. However, we do not yet know for certain, but we have a committee working on it."

A member of the Oregon section asked whether the coefficient of friction is lower in the metal spraying of certain metals on bearing surfaces as compared to the usual finish, and learned that no data on this subject has been published. However, Mr. Templin believes it to be a better bearing, but it is not definitely established at present whether this is due to reduced friction or to the fact that the bearing wears longer.

When Mr. Brown, of the War Department, inquired whether it is possible to metal spray a surface on a part where the coating is not a continuous circle, R. J. McWaters, assistant sales manager, Metallizing Engineering Co., Los Angeles, volunteered the answer, since his company does such work. He assumed, he said, that Mr. Brown was inquiring about such parts as building up over key-

(TURN TO PAGE 166, PLEASE)

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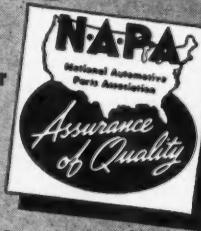
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(CONTINUED FROM PAGE 164)

ways. He was able to say that such work is being successfully done. The essential point was to have proper preparation, he said, such as the Metco preparation offers.

"Why would you chrome-plate a cylinder head?" a member asked Mr. Templin, who replied that it is done in order to improve the combustion characteristics of the engine.

Asked what he would recommend for cam shafts, Mr. Templin informed the group that a chrome plating company in Los Angeles is doing hundreds of Ford V-8 cam-shafts. They apply a heavy coating on the journals and a bright coating on the lobes. This answer led to a query regarding the scarcity of chrome, and Mr. Templin requested C. L. Tanner, general manager, Hard Chrome Engineering Co., Los Angeles, to inform the members as to the current chrome situation. The audience was surprised to learn that there is actually no scarcity of chrome, and that chromic acid, the chief ingredient, can be purchased quite freely, without priority.

At the transportation banquet Roy Long, regional manager, O. D. T., Los Angeles, addressed the meeting on the subject, "Successful Elimination of Waste in Transportation." He reported that through the efforts of O. D. T. mileage has been curtailed more than 30 per cent, but that more drastic efforts must be made because, according to most recent figures, in the next year and a half only 67,000 vehicles will be available to replace the 400,000 a year which ordinarily go out of service.

"We must fight the feeling," Mr. Long warned his listeners, "that something will turn up. Nothing will, that is clear. The responsibility is with you men to prevent and to repair."

August 21 was Army Day at the conference. Major Leonard L. Beardslee, automotive officer, Q. M. C., Southern California Sector, U. S. Army, delivered a paper, "Training of Drivers for Army Motorized equipment." He predicted that by the end of this year the Army will require some 1,000,000 drivers and assistant drivers to operate motor vehicles.

END

(Please resume your reading on P.28)

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WASHINGTON RUNAROUND

(CONTINUED FROM PAGE 25)

these extremely variable factors, which stymied efforts to price used trucks during the NRA code days, the Allocation Section of ODT has under consideration an ingenious scheme whereby ceilings would be established at a percentage rate of original cost and the percentages scaled downward in relation to vehicle age. The ceiling percentages are tentative and still under discussion but it can be said that they start at 90 per cent of original cost for a used vehicle one year old.

Under discussion also is a proposal that would allow the cost of repairs to be added to the scaled percentages but with the aggregate in no case exceeding 90 per cent of the original cost. Discussion centers about this point: Whether the cost of repairs should be defined as actual labor cost plus the cost of repair parts which include the customary retail profit, or defined to exclude this parts profit. Those favoring a non-profit definition argue that if a profit were allowed it would encourage even unnecessary repairs in order to attain the maximum profit within the 90 per cent aggregate. They argue that most prices therefore would tend to reach a ceiling that would represent 90 per cent of the original cost, and they express doubt that in such an event buyers would consider that their interests had been safeguarded. They doubt, moreover, that such a development would represent a contribution to the conservation effort.

The profit proponents, while conceding that some abuses might occur, contend that prospective purchasers will insist in most cases on receiving an assurance from the seller that the (TURN TO PAGE 168, PLEASE)

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(CONTINUED FROM PAGE 167)
used vehicle is in good mechanical
and safe operating condition, and
that unless the percentage scale takes
this into consideration, a profit
should be allowed on the repairs
made. They point out that many
used trucks have been and are being
extensively rebuilt in order to last,
and that it would be unfair to deny
the trade a profit on this work.

Truck Registry Contemplated

One function of ODT is to anticipate difficulties and to be ready to cope with them before they affect the war effort. That calls for far-sighted planning. One such plan, now in the development stage, is a national registry of commercial vehicles. If a registry is ordered truck owners will be required to submit more information about their vehicles and their operation than has ever been asked of them. The plan calls for the issuance of "certificates of war necessity." Its primary purpose is to provide ODT with information which will permit the reallocation of vehicles from less essential services to necessary services if and when the need arises. Conceivably, all trucks of a certain type and capacity might be commandeered from a particular industry and transferred to services considered more vital. This scheme should pop if the Baruch rubber committee reports pessimistically.

Light Trucks May Get Break

General permits, granting exemptions from certain provisions of certain of the ODT orders, are reported elsewhere in this issue. But one general permit, still in the making, may grant light trucks of all carriers relief from the reporting provisions of the Joint Information Offices order. What is the definition of a light truck? The answer to that question

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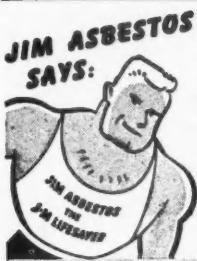
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Monmouth
is the name

was still puzzling ODT officials when last we checked in on it.

Idle Equipment Round-up

While some operators find themselves in need of new trucks, others find themselves with idle trucks. It's the objective of ODT that the two should be brought together. This is fine in theory but in practice it hasn't worked. Something should be done about it and something doubtless will. Meanwhile, ODT is trying to define idle equipment. When should a piece of equipment be considered idle? One idea is to define as idle equipment vehicles which do not operate more than 15 days out of 30.

Army Devising Wear Standards

There is a report that the Army will standardize on engine rebuilding specifications. These will include cylinder reconditioning, crankshaft regrinding, replacement bearing sizes, and ring and piston oversizes.

Blackout Light Situation

The new blackout lights approved by the Army are now being issued for use on Army vehicles. It is still problematical when these lights will become available to civilian truck operators in order to permit them to operate in blackouts.

Cleanup of Previous Reports

The "Censored Secret" mentioned here last month was the taking over by Army Ordnance of all automotive vehicles. . . . Third, axles were placed under rationing as predicted. . . . The new truck inventory undertaken by WPB is said to be disappointing. When the Aug. 3 deadline rolled around WPB had not heard from 48 per cent of dealers who had previously reported. A follow-up appeal went out.



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